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Seventy-five Years of Social Contribution*

An Historical Review

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SEVENTY-FIVE TIMES in as many years have the members of the Michigan State Medical Society come together to discuss their common problems, to exchange ideas relating to professional matters, to have brought before them the newer methods for the treatment of disease, and to learn of the advances in medical science. It is evident that both the doctor and his patient will profit from such meetings, but there are by-products of yet greater value, for from these meetings have come a unity of purpose, a spirit of accord, and a strong organization with broad objectives, active in many lines of endeavor, ever emphasizing the need for improving the quality of medical care, and reflecting and interpreting the views of its members.

Largely through the efforts of Doctor Theodore A. McGraw of Detroit, one-time professor of surgery in the University of Michigan, and one of the founders of the Detroit Medical School, one hundred men met in Detroit seventy-five years ago, for the first meeting of this Society.

The meeting was presided over by Doctor Moses Gunn, soon to become famous as Professor of Surgery in Rush Medical College. But this was not the first medical society in Michigan. This Society was builded on the foundation of several earlier attempts to form and main-

tain a permanent organization, of which the most enduring was the Medical Society of the Territory of Michigan, founded in 1819.

We have a fine medical heritage for there were many strong men in the profession as far back as Territorial Days, and they have had many worthy successors. There were notable contributions made by these territorial doctors to scientific medicine, though none greater than Beaumont's epochal work on Digestion, presented to the Society shortly after he was made a member.

And there were important contributions made by physicians in fields other than medicine. Outstanding was one who contributed in many fields, Doctor Douglas Houghton, excellent physician and dentist, who was also naturalist and geologist. Under his direction, as State Geologist, much of the mineral wealth of the State was discovered and located. He was professor and Regent of the University, mayor of Detroit, and died at thirty-six, having contributed more than most men do in a full lifetime.

Another early regent of the University and a mayor of Detroit, was Doctor Zina Pitcher, an unusual physician for his day. He was founder of the Detroit Public School system, and is looked upon as father of the movement which led to free public schools in Michigan. By appointment of the Regents, he was chairman of the Committee to "Consider the Feasibility of Establishing a Medical Department of the University."

After these came Doctors Palmer and Donald Maclean, Connor and Carstens and Vaughan and many another. I like to think that the spirit of these men still lives in our Society.

For three quarters of a century the Society has endeavored to fulfill the most important pur-

*President's Address, delivered before the Michigan State Medical Society, September 25, 1940.

pose of such a scientific body. By constant effort it has striven to raise the standards of medical practice that the medical needs of the people of this state might be adequately satisfied. It has vigorously urged the raising of the standard of education; it has advocated and worked for the passing of such necessary laws as would protect the sick from the ministrations of the incompetent, the charlatan and the quack.

Recognizing the need of the practicing physician for further training, it has promoted post-graduate education. Recognizing that the public must be taught the need for health measures before coöperation could be obtained and laws for the protection of health instituted, this Society early established, and continues to this day, a campaign for health education for the laity. It has frequently initiated and promoted those activities, both state and local, which look to the improvement of health and social conditions.

But let me return to the meeting which we are today celebrating, and discuss, very briefly, the medical problems and the medical thought as it then existed, for only by getting a perspective of the past can we fully appreciate the present and attempt to predict the future.

The Civil War, as any war must, had dislocated the profession. The rapid growth of the country in the years immediately succeeding, made a demand for doctors which could not be satisfied. It was a period of arrant quackery. All bars to the practice of medicine were down. The Legislature of 1851 had repealed the laws that were on the statute books, and the Supreme Court had ruled that "a doctor was any one who claimed to be such." Important medical discoveries had been reported from medical laboratories and centers in different parts of the world, which were to profoundly affect medical practice, but their practical applications had not reached, and were not to reach the man in the field for many years.

The Catalogue of Harvard Medical School had not, as yet, mentioned either the microscope or the stethoscope. Neither the clinical thermometer nor the hypodermic syringe were in general use in the Civil War period. Lister had not yet adapted Louis Pasteur's work to surgical antiseptics. Bacteriology, as we know it, was not. Indeed, as this Society came into being, "the doctor remained, for all his learning, a medicine man whose chief function was to give home to the patient and relieve his relatives of responsibility."

He was working in the dark, and this he realized. We note it in his speculations, speculations which were based on keen observation, and frequently these speculations anticipated the discoveries that were to come.

The Prevalent Diseases

From an early day Michigan had an "unenviable reputation as a land of swamps, the home of malarial fever of every name." In 1850 the Federal Government donated five million acres of swamp land to the State, and provided that the State should spend the proceeds arising from the sale of these lands to their drainage.

In 1874 this Society, desirous of determining whether the drainage had benefited the health of the people, sent out a questionnaire. One of the questions was, "How large a percentage of disease in your practice is of malarial origin?" The answers disclosed that outside of the city of Detroit, malaria accounted for from fifty to seventy-five per cent of all cases of disease.

We conclude from reading the Society's Transactions of this period, that the thought of the profession centered around malaria and the intermittent fevers, and with much reason. The profession of the period quite generally supported the Zymotic Theory in explaining the origin of the infectious diseases. The theory asserted that these infectious conditions were due to organic matter capable of multiplying itself in the fluids of the body.

These intermittent fevers were known to be contagious and to have a definite incubation period. Emanations arising from decaying wood were accepted as a possible cause of disease, and the possibility of there being "an epidemic condition of the atmosphere," was considered to be quite probable.

Emphatic were the arguments for and against the relationship of syphilis and tuberculosis, and the doctors argued as to whether gonorrhea and syphilis were two separate diseases, or whether such difference as was noted was due to a peculiarity of the constitution of the patient.

I find of interest the prize essay of the American Medical Association for the year 1866. It was on the "Intermittent and Remittent Fevers," and was by Doctor J. R. Black of Newark, Ohio. It being a prize essay it may be assumed that it represents correctly the thought of the time. At least it might be expected to be scientifically tenable according to the knowledge then possessed.

In the course of this paper, under the heading: "A Few Thoughts on Disease in General," he says.

"They, the ancients, had evil spirits, a multitude of angry gods, sorcery, witchcraft, evil stars, eclipses, et cetera, as their fountain of woes, while we, according to authoritative texts, have cold winds, electric disturbances, poisons from vegetable growth and poisons from vegetable decay. These are the accredited sources of nine-tenths of our diseases."

and again,

"The continual grasping after some special intrinsic agent of evil is but a distracting waste of time—The cause is not in some tangible specific entity, some deadly enemy, but in ordinary vicissitudes which our inherited and acquired predispositions are not fitted to withstand."

This, then was the thought of our founders in the decade of 1865-75, yet those of us who were graduating at the turn of the century, found modern medicine here. It is almost inconceivable that medical knowledge could advance so rapidly.

The celebration of an anniversary is an interesting occasion, but it has little purpose unless the occasion is used to review the period, to take stock, and to measure our accomplishments against our failures. What have we, as a medical society, accomplished? What have been our contributions, not only to each other, but what is still more important, to society?

"Men," says John Dewey, "live in a community by virtue of the things which they have in common. What they must have in common in order to form a community or a society, are aims, beliefs, aspirations, knowledge and a common understanding, like-mindedness as the sociologists say. It is not enough that we work to a common end. We must share in what another has thought and felt."

And this we have done, both as a part of our medical Society and as a part of the community in which we live. We are, in some ways, more fortunate than other social groups in that our interests bind us together, and we are likely to share our experiences more generously.

As a Society and as individuals we have grown with the growth of medical science. While maintaining freedom of initiative and developing a social consciousness, we have brought a fine type of medical service to the individual patient, but we have done more than that. We have, as a Society and as individuals, accepted our responsibility to society and to the state, and this I look upon as our finest accomplishment.

It is my purpose to bring before you as a part of our history, some of the movements originated or promoted by this Society, to demonstrate that no other single group of citizens has contributed more to bring health and happiness and prosperity to the people of Michigan.

In the presidential address of Doctor J. Adams Allen of Kalamazoo, to be found in one of our first published Transactions, is this paragraph:

"Our duty as medical men is by no means restricted to the doling out of pills or the amputation of offending members. There is a higher sphere than this. It becomes us to consider all things that influence in any manner the perfection of body and mind, and that not only in the narrow individual sense, but also as affecting the interests of communities of nations of the world."

"This organization was not organized," he goes on to say, "nor does it continue its labor that sundry sordid objectives may be accomplished. It looks to triumph on a grander scale over disease and death, to large additions to the term of human years, to sounder bodies and consequently with this, the growth and enrichment of the State."

Actuated by this spirit the Society has become strong. In this spirit this Society functions today.

The Society early accepted a responsibility to do what it could to improve the general health of the community. It recognized the need for public health work. MacClure, in his article: "A Quarter Century of Public Health Work in Michigan," 1898, says that:

"About the only public health work that had been done in this country up to the time of the movement in Michigan for a State Board of Health, had been done in the army."

A move for the establishment of such a board was begun in the very year that this Society was organized, and the moving force was Dr. Henry B. Baker, ably assisted by Dr. H. O. Hitchcock of Kalamazoo, Dr. Bartholomew and Doctor Kedzie of Lansing, but it met with both indifference and opposition. In our Transactions of 1870 I find an article by Dr. Baker, advocating the creation of a State Board of Health, and in the Transactions of 1871, an extensive report in which he reviewed the unsuccessful effort to get the act through the Legislature.

The evidence seems conclusive that it was through the efforts of this Society that the Act establishing the Board of Health, was enacted in 1873, over much opposition.

Had the Society succeeded in getting the legis-

lature to pass the bill in 1870, Michigan would have been the second state to have a Board of Health.

The Transactions in the years immediately following our organization, give abundant evidence of the very special interest of the Society in the prevention of disease, and in particular its prevention through proper drainage, proper water supply and sewage control.

"I know of no other state nor other Board of Health which undertook at so early a date, to systematically labor by educational efforts for the prevention of typhoid fever."

wrote Dr. Baker, the first secretary of the State Board of Health.

The Society has ever had a very special interest in the health of the school child, and has shown this interest many times. It is interesting to note that much of the Transactions of 1873 is devoted to exhaustive reports of committees appointed for the purpose of considering the hygiene of school children. The reports took into consideration the construction, warming, ventilation and sewage of the school buildings.

In 1871 Dr. H. O. Hitchcock chose as the topic of his presidential address: "The Necessity of Educating the Public in the Principles of Medicine."

We have long accepted this as one of our obligations. The Joint Committee on Health Education, a group today of some twenty-three organizations, distributes factual information on health, to the laity through the Speakers' Bureau, radio outlets, and newspaper columns. Originated by this Society some 20 years ago, it has had, from the beginning, the support of the University of Michigan through its Extension Division. These two organizations continue to be the dominant units.

The Society initiated the Act of the Legislature which led to the establishment of the Division of Vital Statistics, that the causes of death and the prevalence of disease might be accurately recorded.

It promoted the establishment of insane asylums and asylums for the deaf and dumb, and in 1900 the Society appointed a committee, headed by Dr. Herbert M. King of Grand Rapids:

"to petition the legislature for an appropriation for the establishment of a properly equipped sanitarium for the treatment of the early stages of tuberculosis."

And just in passing: Michigan doctors recognized that tuberculosis was communicable before Koch discovered the tubercle bacilli.

As might be expected, the Society has ever had a keen interest in medical education and a very special interest in the University of Michigan Medical School. Michigan is credited as being the first state to establish a medical school. Heretofore the schools were of the so-called proprietary type. Yet, recalls Dr. T. A. McGraw, who in 1875 was Professor in Surgery in the University:

"The State of Michigan, while pretending to teach medicine, did nothing of the kind. It offered the Regents the use of certain buildings, for that purpose, but means for conducting the institution must be obtained from the fees of students, and as the fees were extremely small, the classes must be large if the school was not to die of inanition."

"Why," said the legislators, "should the people be taxed to teach doctors?"

There is plenty of evidence in the Transactions to show that there was constant pressure put on the faculty to raise the standards of medical education, and indeed it was needed. An article entitled "Medical Education in the United States," by Dr. H. C. Wood, Jr., in Lippincott's Magazine of 1875, has this to say:

"A striking illustration of the degradation of medical education in this country is furnished by the last catalogue of the University of Michigan, an institution which is deservedly regarded as the chief center of culture in the middle west."

and he goes on to say:

"They require for their medical degree, scarcely a sixth part of what they do for their degree in engineering, and barely more than half of what they deem necessary for a mere druggist."

At this period an applicant for a degree in medicine was required to attend two courses of lectures of six months each, and this compared favorably with most, if not all, of the colleges in the country. Dr. Wood's criticism was quickly answered by a colleague, Dr. Penrose, of Philadelphia, who argued that the country had not yet developed to the point where higher educational requirements were practical. In 1875 the Society passed a resolution directed to the Regents, asking for a full three years graded course and lectures, and requirements for admission equal to those required for admission into the scientific department.

Today the Michigan State Medical Society, proud of its two medical schools, the University of Michigan, and Wayne University, coöperates with them in an expansion of postgraduate opportunities. We take particular pride in the part that this Society has played in this activity.

The Department of Postgraduate Medicine of the University Medical School was organized in compliance with a recommendation of the Michigan State Medical Society to the Regents of the University, and the operation of the so-called Michigan plan, which gives every member of the Society the opportunity for a continuous education, has been a joint activity. This wide distribution of opportunity brings a higher quality of medical care to every part of the state. The many favorable comments indicate that the laity understands and appreciates this.

With a background of social consciousness, it is not surprising that the members of the Michigan State Medical Society, individually and as a society, have been responsive to the new social philosophy which:

"conceives a social order which is under obligation to give its members wholesome conditions of living, and believes that all should receive a fair proportion of the advantages which, in the past, only the special few enjoyed."

As physicians we recognize that adequate medical care and treatment are not the least of these advantages.

This year the Michigan State Medical Society has put this philosophy into practical application with Michigan Medical Service, a non-profit prepayment plan to cover the cost of illness for those of the lower income group. Michigan recognizes that the social aspects of medical care cannot remain static, and that the two must necessarily be associated.

Adequate medical care today is a far different type of care than was satisfactory even twenty years ago, and if the patient is to have the benefit of the new instruments of precision for diagnosis, and the newer methods of therapy, a way must be found to bring it within his financial means. We believe that we have found that way. It has taken many years of study and hard work, beginning with the exhaustive Survey of Medical Service and Health Agencies in Michigan, which a committee of this Society completed and reported in 1933, but it is now fairly launched with nearly one hundred thousand subscribers. We do not look upon this plan as just

an answer to the ideas held and the propaganda instituted by those who would have a new system for medical practice instituted in this country. Rather is it the evidence of an orderly evolutionary progress of a system of practice which has throughout the ages conformed to the changing needs of the people it serves.

We recognize that this plan fails to meet the needs of the lowest income group and the indigent. We are quite aware that the contribution of charity service by the profession of this country, which is estimated as amounting to a million dollars a day, is not meeting this problem. We do not have the solution, but we know that it is not to be solved by any plan which does not recognize and emphasize that the underlying cause of much of the existing ill health and disease is to be found in poverty, ignorance, poor nutrition, bad housing and crowded living. It is not in the first instance, a medical problem. It is an economic problem. But as medical care must come into the problem any satisfactory solution must include good medical care. As an organization and as individuals our ambition is to see good medical care distributed in the American way, to all who need it, to rich and poor alike.

On our fiftieth anniversary we met in Grand Rapids under the presidency of our beloved Doctor Reuben Peterson. I have earlier brought to you his greetings. Then, as now, a vicious, destructive war was in progress. We did not think it possible that we should be engulfed in that war, but we were, and splendid was the sacrifice and service contributed by the medical profession.

A threatening situation has again forced the Government to prepare for possible eventualities. Through the American Medical Association the profession has offered its services. Our State Committee on Medical Preparedness has been appointed and is coöperating with a like committee of the American Medical Association and with the Federal Government. We will do our part both as an organization and as individuals.

The need for special instruction for the examination of recruits, for special instruction in diseases prevalent among large groups of men, for instruction in certain types of war surgery, will be met by this Society through its Postgraduate courses whose program will be enlarged to take in these subjects.

It will be a disturbing year for men's attentions are bound to be distracted from the scien-

tific aspects of medicine and from their medical society, yet never was there a time when cohesion was so necessary, for war, even the preparation for war, necessitates regimentation of doctors as well as fighting men, and the danger of permanent regimentation, under these conditions, is very great. If it is to be prevented, it will be by a unity of action. Under these conditions it will be futile to look into the future in an attempt to foretell what is to be the trend of practice. We can and will satisfactorily meet the newer social trends and the inevitable change in conditions in our own way, the American way, if we are permitted to do so.

We can be confident that though the catastrophe of an extensive war may delay, it will not block scientific advances. We are on the threshold of new and important discoveries which are likely to revolutionize the practice of medicine, even as it has been revolutionized during the life of this Society.

The Michigan State Medical Society, with a social consciousness well developed, accepting its responsibility to society and state, as well as to its members, has grown strong. That it will continue to grow still stronger, is a reasonable expectation.

"Linked together by the strong bonds of unity of interests, the profession of medicine forms a remarkable world unity in the progressive evolution of which there is fuller hope for humanity than in any other direction," wrote Doctor Osler. It is a satisfactory thought with which I close. I am proud to belong to that profession.

HOW TO STAGNATE IN MEDICINE

There are several rules which must be kept in mind, if we wish to deteriorate in medical skill and knowledge.

The first rule: File your patient's records away and forget all about them. Never go over them after the day's work is done and try to pick out errors of omission or commission; never try to follow up patients to learn whether your diagnosis was correct and if your treatment helped the patient. Best of all, keep only a few scribbled lines about each case, preferably without making any attempt at a diagnosis.

The second rule: Read medical books and magazines with an eye only for the "practical"—that which can be used at once. Skip over the physiology, pathology and differential diagnosis, so that you can concentrate on treatment. Read the summaries at the end of articles; only a sucker will dig through the article itself.

The third rule: Never take a chance on confirming your diagnosis by consultation with a specialist (unless, of course, an unreasonable patient insists on it and you can't snub the bouncer) or by necropsy. Thus you can cheerfully go ahead making the same mistakes over and over. Most people don't know the difference, any way.

By following these basic precepts and by avoiding postgraduate courses and medical meetings, you may be assured of a comparatively rapid, and certainly unlaborious, decadence—*Clinical Medicine and Surgery*.

Leukocyte Counts

Evaluation of Total, Differential and Absolute Counts*†

By Edwin E. Osgood, M.D.
Portland, Oregon



EDWIN E. OSGOOD, M.D.
University of Oregon Medical School, 1924; Assistant Professor of Biochemistry, 1928-33; Director of Laboratories, 1928-36; Assistant Professor of Medicine, 1929-39; Assistant Professor of Medicine, 1939; Head of the Division of Experimental Medicine, 1936 to present. Member of American Society for Clinical Investigation; American Society of Clinical Pathologists.

■ ALTHOUGH leukocyte counts are made and interpreted in most physician's offices daily, few appreciate the many sources of error in the technic and interpretation of these determinations nor obtain the full information which could be obtained from such counts.

Sources of Error

To be accurate, total leukocyte counts should be done on oxalated blood¹ obtained by venipuncture, and each detail of the technic must be followed meticulously.² Vejens³ has shown that with blood from the finger or ear, at least the first three freely flowing drops should be discarded and the count be taken from succeeding drops, collected without pressure or manipulation or there is danger of error from leukocytes adhering to the walls of the arterioles and venules. Even with the most meticulous technic, however, a certain error due to the laws of chance of random sampling is unavoidable. This error is greater (Table I⁴) the fewer the leukocytes counted. All reports of leukocyte counts and differential counts should include a statement of the number of cells on which the count is based. The use of the table is explained in reference 4.

The prime requisites for accurate differential cell counting are a thin, well stained smear with a uniform distribution of the cells. To

* From the Department of Medicine and the Division of Experimental Medicine, University of Oregon Medical School, Portland, Ore. Presented before the meeting of the Michigan State Medical Society, Grand Rapids, Michigan, September 19, 1939.

† Because of lack of space most of the tables have been omitted and the article has been abbreviated. Tables and much of the omitted material may be found in the references cited.

LEUKOCYTE COUNTS—OSGOOD

TABLE I. THE UNAVOIDABLE ERROR IN COUNTING METHODS**

No. of cells counted X	Standard deviation ±*	Per cent within which true count lies† ±	Standard deviation of the difference‡ ±	Significant difference in per cent§ ±
10	3.1	62	4.5	90
20	4.5	45	6.3	63
30	5.5	37	7.7	51
40	6.3	32	8.9	45
50	7.0	28	10.0	40
60	7.7	26	10.9	36
70	8.4	24	11.8	34
80	8.9	22	12.6	32
90	9.5	21	13.4	30
100	10.0	20	14.1	28
125	11.2	18	15.8	25
150	12.2	16	17.3	23
175	13.2	15	18.7	21
200	14.1	14	20.0	20
250	15.8	13	22.4	18
300	17.3	12	24.5	16
350	18.7	11	26.4	15
400	20.0	10	28.3	14
500	22.4	9	31.6	13
600	24.5	8	34.6	12
800	28.3	7	40.0	10
1200	34.6	6	49.0	8

* \sqrt{x}
† $\frac{2\sqrt{x}}{x} \cdot 100$
‡ $\sqrt{2x}$
§ $\frac{2\sqrt{2x}}{x} \cdot 100$

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obtain such smears, it is essential that all details of the technic⁵ be followed. In a properly made smear, neither end of the smear should approach the end of the slide, there should be no waves or holes, an appreciable area of the smear should be thin enough so that the red cells do not touch each other, and counting should be done only in such areas.

Nomenclature and Cell Identification

At the present time, so many names are applied to the same cell and these names have been so differently or vaguely defined that it is almost impossible to compare differential cell counts made in one laboratory with those made in another. In an effort to overcome this difficulty, the nomenclature⁶ shown in Table II⁷ was suggested. A system of cell identification has also been developed which should aid in finding the name of a cell which has never been seen before (Tables III, IV, V, VI, VII, in reference

8). The headings to the tables should be regarded as questions to be asked about each cell seen. The numbers in the last column in the tables refer to the number of the illustrations and the discussion of the corresponding cells in the Atlas.⁹

Normal Values¹⁰

The figures of 5,000 to 10,000 leukocytes per c.mm. as the range of normal for leukocyte counts have been copied from year to year in textbooks without verification, and almost no reliable data have been available on normal total and differential leukocyte counts in children. The author and his coworkers¹⁰ have, over a period of years, studied a large series of strictly healthy persons of both sexes and almost all age groups. We have found that the figures differ widely from those usually given. These normal standards (Table VII in reference 2) show a wider range, higher lymphocyte counts, and lower neutrophil counts than the figures usually given. The probable reason for the lower neutrophil counts is that strictly healthy persons were studied; whereas most previous studies were based on outpatient clinic or hospital patients thought not to have a cause of leukocytosis.

Leukocytoses and Leukopenias

When these normal standards were determined, it became apparent that many leukocyte counts have been classified in the past as abnormal which were really within normal limits; furthermore, in the usual classification of leukocytoses and leukopenias, attention was paid largely to the cells which were increased. The fact that a decrease in numbers of other cell types was of equal importance was overlooked. It was found of considerable diagnostic aid to reclassify the leukocytoses and leukopenias as shown in Table 21 in reference 11. The range of total leukocyte counts given in Table 21 in reference 11 includes the range of leukocyte counts usually found in the diseases listed in the Atlas¹² as causing this picture. Of course, the term "leukocytosis" should not be applied unless the count in the particular patient is above the upper limits of normal for the patient's age group, and the term "leukopenia" should not be applied unless the count is below the lower limits of normal for the patient's age group.

Note that in true neutrophilia or neutrophilic leukocytosis there is not only an increase in

LEUKOCYTE COUNTS—OSGOOD

TABLE II. NOMENCLATURE†

Name of series	Recommended name	Names which have been applied to the same cell
Lymphocyte	Lymphoblast	Myeloblast, ¹ hemocytoblast, ² lymphoidocyte, ³ stem cell, lymphocyte ^{4,5}
	Prolymphocyte	Large lymphocyte, ⁶ pathologic large lymphocyte, ⁶ atypical leukocytoid lymphocyte, ¹ monocyte ⁸
	Lymphocyte	Small, medium, or large lymphocyte, normal lymphocyte, small, medium or large mononuclear
Monocyte	Monoblast	Myeloblast, ¹ hemocytoblast, ² lymphoidocyte, ³ lymphocyte, ^{4,5} stem cell, immature monocyte
	Promonocyte	Premonocyte, ⁷ hemohistioblast, ² immature monocyte
	Monocyte	Large mononuclear, ⁸ transitional, ⁸ clasmatoocyte, ⁹ endothelial leukocyte, ⁴ histiocyte, ¹⁰ resting wandering cell ⁴
Granulocyte (Myeloid)	Granuloblast	Myeloblast, ^{1,6} hemocytoblast, ² lymphoidocyte, ³ lymphocyte, ^{4,5} stem cell
	Progranulocyte S*	Promyelocyte I, ⁶ myelocyte A, ⁹ myelocyte, non-filament, ¹¹ class I ¹²
	Progranulocyte A	Promyelocyte II, ⁶ leukoblast, ¹ basophil myelocyte, ¹³ myeloblast, ⁵ premyelocyte ⁹
	Granulocyte	Myelocyte, ⁶ myelocyte B, ⁹ non-filament, ¹¹ class I ¹²
	Metagranulocyte	Metamyelocyte, ⁶ juvenile, ¹⁴ myelocyte C, ⁹ non-filament, ¹¹ class I ¹²
	Rhabdocyte	Staff cell, ⁶ stab cell, ¹⁴ band cell, ¹⁵ non-filament, ¹¹ class I, ¹² rod nuclear, ¹⁰ polymorphonuclear
	Lobocyte	Segmented neutrophil, ⁶ polymorphonuclear, filamented, ¹¹ class II, III, IV or V ¹²
Plasmacyte	Plasmablast	Myeloblast, ¹ hemocytoblast, ² lymphoidocyte, ³ lymphocyte, ^{4,5} stem cell, lymphoblastic plasma cell ¹
	Proplasmacyte	Türk cell, ⁶ Türk irritation form, lymphoblastic or myeloblastic plasma cell ^{1,4}
	Plasmacyte	Plasma cell, ⁶ Unna's plasma cell, Marschalko plasma cell, plasmacytoid lymphocyte ^{1,3}
Erythrocyte	Karyoblast	Megaloblast, ⁶ myeloblast, ¹ hemocytoblast, ² lymphoidocyte, ³ lymphocyte, ^{4,5} stem cell, promegaloblast, ¹ basophilic normoblast, ¹ primitive erythroblast ⁹
	Prokaryocyte	Erythroblast, megaloblast, ⁶ orthochromatic normoblast, ¹ basophilic normoblast, ¹ polychromatophilic normoblast, ¹ macronormoblast, ¹⁰ macroblast ¹⁶
	Karyocyte	Normoblast, ⁶ pronormoblast, ¹ macronormoblast, ¹⁵ erythroblast, polychromatophilic normoblast ¹
	Metakaryocyte	Normoblast ⁶
	Reticulocyte	
	Akaryocyte	Erythrocyte, red blood cell, erythroplastid, normocyte ¹⁶
Thrombocyte	Megalokaryoblast	Megakaryoblast
	Promegalokaryocyte	Promegakaryocyte
	Megalokaryocyte	Megakaryocyte
	Platelet	Thrombocyte, thromboplastid
	Disintegrated cell	Senile cell, smudge, basket cell, smear cell, degenerated cell

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*Any basophil from the progranulocytes to the lobocyte is sometimes referred to as a mast cell.

1. H. Downey and K. Kato; 2. A. Ferrata; 3. A. Pappenheim; 4. A. A. Maximow and W. Bloom; 5. An error in classification; 6. E. E. Osgood; 7. P. W. Clough; 8. An obsolete term; 9. R. Cunningham, F. Sabin, and C. Doan; 10. Common term for monocytes when found in tissues; 11. D. L. Farley, H. St. Clair, and J. A. Reisinger; 12. W. E. Cooke and E. Ponder; 13. An error due to interpretation of azurophil granules as basophil granules; 14. V. Schilling; 15. A. Piney; 16. R. B. H. Gradwohl.

neutrophils with a tendency to increase in the rhabdocytes (staff cells) and other immature forms, but that there is a decrease in the other cell types with, as a rule, almost complete disappearance of eosinophils and basophils. The causes of true neutrophilia include most of the acute infectious diseases, acute infections with the pyogenic organisms, and all forms of pneumonia and meningitis. A more complete list of the causes of neutrophilia as well as of the other leukocytoses and leukopenias is given in the Atlas.¹²

The condition I call simple leukocytosis has not, in the past, been differentiated from neutrophilia. In this group, however, all cell types are increased and the eosinophils and basophils do not disappear. It is important to differentiate this group since most of the conditions, with the exception of gonorrhea, rheumatic fever, scarlet fever, and osteomyelitis, causing a simple leukocytosis are noninfectious. Among the more common causes are severe acidosis; large acute hemorrhages; multiple bee stings; severe pain such as that of coronary occlusion, dissecting aneurysm or trauma; severe physical exercise; Hodgkin's disease, lymphosarcoma, leukemias and other myelophthistic anemias; pregnancy and the puerperium; and polycythemia rubra vera.

The term relative lymphocytosis has been applied in the past in many blood pictures which are now seen to fall within normal limits or to represent a decrease in lymphocytes along with a decrease in other cell types. It seems more logical to classify these blood pictures as simple leukopenia or as granulopenia since the number of lymphocytes is usually actually decreased instead of increased, and to limit the term lymphocytosis to those conditions in which there is an actual increase in the number of lymphocytes present in the blood. When these criteria are applied, there remain only three important causes of lymphocytosis: pertussis, infectious mononucleosis and lymphocytic leukemias. It may occasionally occur in congenital syphilis.

Eosinophilia will prove, in nearly all cases, to be due to one of two fundamental causes: allergy, either parasitic or nonparasitic, or invasion of the bone marrow as in all the myelophthistic anemias. Many cases formerly classed as eosinophilia really belong to the group of

simple leukocytoses in which the total leukocyte count is elevated but eosinophils are within normal limits as far as actual percentage is concerned.

Basophilia occurs only in the myelophthistic group of anemias.

Monocytosis of slight degree may occur in Hodgkin's disease, subacute bacterial endocarditis and tuberculosis, but is of very little diagnostic value. A monocytosis of over 20 per cent means in almost every instance monocytic leukemia, in which case promonocytes or monoblasts are likely to be present in the blood or bone marrow. Monocytic leukemia is by no means as rare as was formerly thought.¹³

Plasmacytosis occurs almost exclusively in German measles, measles, multiple myeloma and plasmacytic leukemia.¹⁴ A few cells of the plasmacyte series may be found in any normal blood if sufficiently prolonged search is made.

The term simple leukopenia is proposed for the group of conditions formerly called relative lymphocytosis in which the essential change is a decrease in all types of cells with a differential count within normal limits or showing only an increase in neutrophil rhabdocytes (staff cells). Many of the conditions which typically give this picture may have counts within normal limits, in which case, of course, the term simple leukopenia is not applied. Among the more important causes of this blood picture are the macrocytic and splenomegalic anemias, influenza, malaria, measles, tuberculosis, typhoid fever and undulant fever. There are many other causes which are not common in this part of the country. In typhoid fever the eosinophils and basophils usually disappear but in the other conditions mentioned they are present.

The term granulopenia is used to describe that blood picture in which the neutrophils, eosinophils and basophils are greatly decreased and there is an extreme leukopenia. It occurs in agranulocytosis, aplastic anemias, aleukemic and subleukemic leukemias, and in kala-azar. In all of these conditions, this often leads to the development of stomatitis, sore throat or gangrenous necrosis of other mucous membranes.

Differential Diagnosis of Stomatitis and Sore Throat¹⁵

Many physicians fail to appreciate the importance of a hematologic study in any patient who has a sore throat (Table 20 in reference 16).

This table lists some of the important causes of stomatitis and sore throat in which a hematologic study is important in diagnosis. Note particularly that mouth and throat lesions may be the first symptom of agranulocytosis, aplastic anemias, leukemias or infectious mononucleosis. I have seen tonsils removed for leukemia and local applications used as the only therapy without adequate diagnosis for a number of patients with each of these conditions by supposedly well trained men, sometimes leading to possibly preventable death of the patient.

The differential diagnosis of agranulocytosis, aplastic anemias, infectious mononucleosis and leukemias may be possible only by blood and marrow studies since the mouth and throat lesions may be identical in appearance. Agranulocytosis, aplastic anemias and the aleukemic leukemias may all show a true granulopenia in the blood. In agranulocytosis, anemia and a hemorrhagic syndrome are absent. In the others, normocytic anemia and petechiae or bleeding from the gums are the rule. Examination of the sternal marrow¹⁷ shows disappearance of the cells of the granulocyte series in agranulocytosis, and of almost all nucleated cells in aplastic anemia; whereas in the aleukemic or subleukemic leukemias, the nucleated cell count in the marrow is normal or increased, and the pro-stage of the cell corresponding to the type of leukemia is considerably increased in percentage and often shows unusually large nucleoli.¹⁸

Infectious mononucleosis is characterized clinically by sore throat, fever, malaise, diffuse enlargement of the lymph nodes, enlargement of the spleen, and not infrequently by pain simulating acute appendicitis. This clinical picture is indistinguishable from that of an acute or subacute leukemia. The blood picture shows as a rule a true lymphocytosis with the presence of prolymphocytes and fenestrations in the lymphocytes.¹⁹ Since fenestrated lymphocytes are sometimes hard to find, the picture may differ from that of subacute lymphocytic leukemia only in the absence of anemia. Since anemia is sometimes absent in the early stages of subacute lymphocytic leukemia, the Paul and Bunnell test²⁰ should always be done. A positive agglutination of sheep cells in a dilution of 1-32 or higher excludes leukemia, and with the clinical picture makes a definite diagnosis of infectious mononucleosis since serum disease, which clinically is en-

tirely different, is the only other condition known to give a positive Paul and Bunnell test.

Differential Diagnosis and Classification of Leukemias²¹

The differential diagnosis and classification of leukemias has been much confused in the past by differences in definition of terms and the failure to recognize that the essential pathology of leukemia occurs in the marrow, lymph nodes and spleen, and that the presence of leukemic cells in the blood is by no means constant. Leukopenia with normocytic anemia is almost as suggestive of the presence of leukemia as a high leukocyte count, and constitutes a definite indication for sternal puncture²² and examination of the bone marrow.

Tables 16 and 17 in reference 23 give the criteria recommended for diagnosis and classification of leukemias. Note that any diagnosis of leukemia should include a statement as to whether it is acute, subacute or chronic; as to whether it is leukemic, subleukemic or aleukemic; and as to whether it is granulocytic, lymphocytic, monocytic, plasmacytic or megalokaryocytic.

Prognosis From Neutrophil Morphology

Many methods of prognosis from total and differential leukocyte counts have been proposed.²⁴ In my experience, the most valuable has been grading the degree of basophilia of the cytoplasm, the number of vacuoles, and the degree of alteration from the normal of the toxic granules²⁵ in the neutrophils of the blood on a scale of 1 to 4 plus. One plus is the least detectable change from the normal and 4 plus is the greatest degree of change that occurs. A certain amount of experience is required but with the aid of the illustrations in the references²⁶ this should not be difficult to learn. A series of over 100 consecutive blood smears were selected in which any two of these changes showed a 3 plus or greater deviation from the normal, and death was predicted with no other information about these patients. More than 90 per cent of them were dead within a week. They included all sorts of conditions, including not only infections but malignant tumors and leukemias as well. Failure to find these changes, however, does not insure a good prognosis.

Summary

To obtain the maximum information from total, differential and absolute leukocyte counts, it is essential that the sources of error in the technics of these methods be appreciated, that the normal values for each age group be known, and that the importance of a decrease as well as of an increase in particular cell types be recognized. In order that data from different laboratories may be compared, it is essential that a uniform system of nomenclature and cell identification, such as that here described, be used. A useful classification of leukocytoses and leukopenias is proposed, and the importance of hematologic studies in sore throat and stomatitis have been reemphasized. A method of accurately predicting death from changes in neutrophil morphology is given.

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Bilateral Small Cell Carcinoma

Report of a Case in a Girl Fifteen Years Old

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■ CARCINOMA of the ovaries is not uncommon and no age is excepted. Bilateral carcinoma in a girl fifteen years of age is rarely seen, particularly of the small round cell type. There are numerous instances throughout the literature of malignancy of the ovary in the very young, and young. However, they are chiefly adenocarcinoma, cystic adenocarcinoma and granulosa-cell type, and unilateral.

The authors reviewed the literature back to 1905 and did not find a case of bilateral small round cell carcinoma in a patient this young.

Case Report

A fifteen-year-old American school girl was admitted December 26, 1938, to Grace Hospital, Detroit, Michigan, and the following history was obtained.

Complaint.—Abdominal distention and backache.

Present Illness.—There had been a three to four-inch expansion of the abdomen within four days. There were no other symptoms except that she fell while ice-skating on December 20 and complained of a backache, following the fall. There was jaundice, chills, fever, sweats. No cardio-respiratory, genitourinary or gastro-intestinal symptoms were evident.

Past History.—Symptoms had been negative, except for chronic constipation. Menses began at fourteen years; regular no dysmenorrhea. Last monthly period,

December 21, 1938. Father and mother living and well, no siblings.

Physical examination revealed a well developed and nourished young white female, 5 feet, 2 inches in height, and weighing 120 pounds, lying in bed not acutely ill. Skin was clear, no icterus, thyroid slightly palpable, no lymphadenopathy. Pulse was 102; blood

men made December 28, 1938 revealed no evidence of pregnancy nor of intestinal obstruction.

There was considerable increase in the opacity of the abdomen, with obliteration of the margins of parenchymal organs and the psoas muscles as produced by accumulation of considerable fluid in the peritoneal cavity.

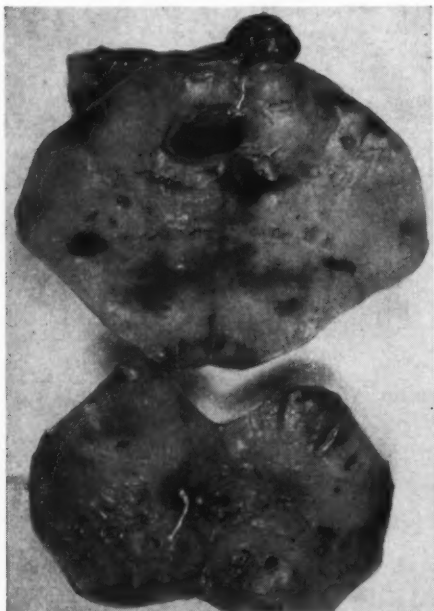


Fig. 1. Photograph of gross specimens, bisected.

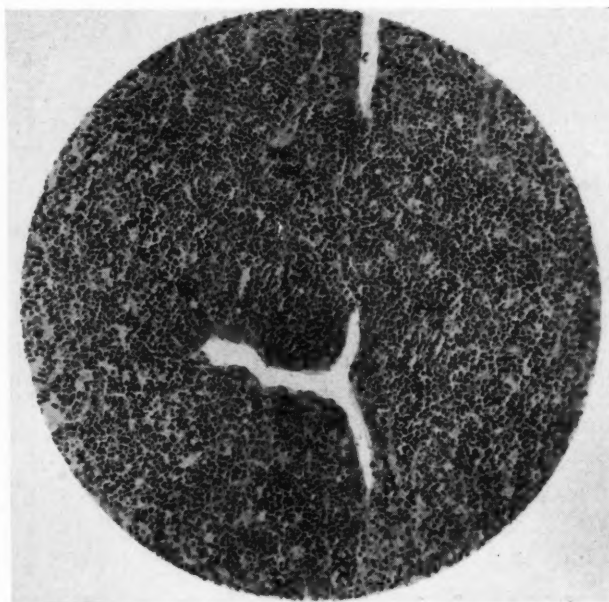


Fig. 2. Photomicrograph of primary ovarian tumor.

pressure 140/180. The abdomen was distended uniformly, and was globular in shape, the umbilical region being most prominent. The skin was tense. The epigastric angle was widened. The veins around the umbilicus were visible but not dilated. Abdominal respiratory movements were absent—no visible peristalsis. Percussion note was flat except in periumbilical area where it was tympanitic. Tympanites shifted with change in position. There was an area just below the umbilicus which remained constantly flat on percussion. A fluid wave was present. There was moderate tenderness in the mid-epigastrium but no rigidity. Liver and spleen were not palpable. No masses felt. Rectal examination revealed impaired mobility of the uterus but no tenderness. No edema of the extremities. Neurological examination negative. Vaginal examination not done because of intact hymen.

Laboratory Report.—Hemoglobin 16 grams; red blood count 4,430,000, white blood count 11,700, polymorphonuclears 83 per cent, of which 79 per cent were filamented and 4 per cent were non-filamented; 1 per cent basophiles, 16 per cent lymphocytes.

Urine: Sp. gr. 1.004-1.012, albumin and dextrose negative, microscopic negative, mantoux test negative 1:1000. Smears of abdominal fluid showed many pus cells, no organisms. Culture negative 24-48 hours.

Provisional Diagnosis.—Cystic ovary: possibly malignant. Tuberculous peritonitis.

X-Ray Report.—Radiographic survey of the abdo-

men made December 28, 1938 revealed no evidence of pregnancy nor of intestinal obstruction. There was considerable increase in the opacity of the abdomen, with obliteration of the margins of parenchymal organs and the psoas muscles as produced by accumulation of considerable fluid in the peritoneal cavity.

Operation.—On December 29, 1938 a midline abdominal incision was made. The peritoneum was first opened by a small incision which allowed a large amount of chylous-like fluid gradually to escape. The omentum was seen to be reddened and was friable. Trendelenburg position: Appendices epiploicæ were large and reddened. The mesentery of the small intestine contained nodules, which were infiltrated, evidence of metastasis; one portion of the ileum about 8 cm. in length could not be compressed and felt as though it were filled with straw. In the mesentery opposite this was a gland about 2.5 cm. in diameter.

The stomach wall was thickened on palpation, otherwise negative. A portion of the ileum, approximating the jejunum, was enveloped by a circular thickened area about 5 cm. long. The pelvis presented a mass at the right side of the uterus, which proved to be the tube, while both ovaries were several times their normal size but of firm consistency. Diagnosis of malignancy was made—possibly sarcoma. Both ovaries and right tube removed. Uterus appeared normal. Section was removed from the omentum for examination. No drain.

Progress Notes.—The patient reacted well from the

operation. On January 2, 1939 (six days later) she developed a diarrhoea, which was corrected. On January 4, the abdomen became distended with slight fluid wave present. This was relieved by abdominal paracentesis. January 6, the patient was referred for deep x-ray therapy. January 11, abdominal distention became more marked, with pain in the epigastrium.

The patient gradually lost ground, and expired on January 19, 1939, twenty-three days after operation.

Pathologic Report of Specimens Removed

Gross.—One ovary weighed 53 grams and measured 7 x 5 x 4 cm. in size. The surface was somewhat lobulated. On cut section it revealed complete replacement by tumor tissue, which was soft in consistency and grayish red in color. The other ovary weighed 86 grams and measured 8 x 7 x 5 cm. in size. It had the same appearance as the other ovary, except that it exhibited a few areas of hemorrhage.

Normal ovarian tissue could not be seen in either ovary. The fallopian tube measured 8 cm. in length and from 1 to 2 cm. in diameter. The fimbriated extremity was patent. The wall was somewhat thickened.

Microscopic.—The ovaries were completely replaced by new-growth tissue. The new-growth tissue consisted of small cells which had little cytoplasm and deep staining nuclei. However, these cells varied considerably in size and staining. In general, they were polyhedral in shape but many of them were round. A number of them contained mitotic figures. There was very little stroma. Vascularity was marked and consisted of blood spaces to a great extent. In some places there was a slight tendency to long tubular gland formation. The tumor tissue had infiltrated the wall of the fallopian tube.

Diagnosis.—Bilateral small cell carcinoma of ovaries.

Pathologic Examination of Post-mortem Material

Microscopic.—The liver parenchyma exhibited a small amount of fatty degeneration of the cord cells about the central veins, otherwise there was no pathology within the substance of the liver. The capsule, however, was infiltrated with a large amount of tumor tissue. This tumor tissue consisted of deep staining cells with little cytoplasm and very little stroma. The mass was highly vascularized with blood spaces. The tumor cells, although fairly small, varied greatly in size and staining; in general, they were somewhat larger than a small leukocyte. Among them were a large number of mitotic figures; there was a slight tendency to be arranged in cords. This tumor tissue was identical with that which was seen in the primary of the ovaries.

The pancreas was infiltrated with large amount of tumor tissue which was present in the capsule surrounding adipose tissue and connective tissue trabeculae.

The spleen was rather diffusely infiltrated with a small amount of tumor tissue infiltrating in the pyramids, the cortical tissue not being involved.

The adrenals contained a small amount of tumor tissue in their capsules but none in the substance of the tissue.

The myometrium was infiltrated with a large amount of tumor tissue.

Other than the above described, there were no abnormalities within any of the organs.

Pathologic Diagnosis.—Laparotomy with bilateral oophorectomy for small round celled carcinoma of ovaries.

Metastasis of above tumor to uterus, peritoneum, spleen, liver, pancreas and adrenals.

Comment

Ewing states that, in the class of solid carcinoma, may be conveniently grouped, all the tumors of large or small aveolar or medullary structure which are not connected with the cystic-adenocarcinomas and which do not exhibit the specific structure of Krukenberg's tumor nor of carcinoma folliculoides. The alveolar and medullary carcinomas produce, as a rule, solid tumors maintaining the form of the ovary in early stages, but eventually becoming irregular and lobulated. In young subjects there occurs a form of solid ovarian carcinoma which is bilateral, of rapid growth, producing widespread local invasions and numerous bulky metastases.

The above description fits this case very well—that the metastasis was extensive, involving the uterus, peritoneum, spleen, liver, pancreas, adrenals, omentum and mesentery.

In comparing the symptoms of this case with those of the unilateral malignant tumors where menstrual irregularities are prominent, it is to be noted that menstrual function in this girl was normal. Possibly this substantiates the theory advanced by M. R. Robinson "that tumors may and do assume the function of the organ from which they spring."

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Varicose Veins

Surgical Treatment of 100 Cases Analyzed*

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THE treatment of varicose veins has under-
gone a series of important changes within the
past twenty years. The old vein stripping opera-
tion of a previous generation of surgeons gave
way to the injection of sclerosing solutions. The
next step was the ligation of the large saphenous
vein at its junction with the femoral vein. This
procedure was advocated by DeTakatz because
he noted that the injection method frequently re-
sulted in failure to produce a permanent cure.
The reasons for this failure were the recanaliza-
tion of sclerosed veins or the dilatation of pre-
viously existing collaterals.

Reports in the literature indicate that the com-
bined high ligation-injection method of treatment
has been successful for the type of case with a
positive Trendelenburg test. Nevertheless, fail-
ures are also noted.

How to turn these failures into cures is the
problem facing venologists today. By constant
critical examination of clinic material further re-
finements in diagnostic methods and improve-
ment in technic are being developed. The results
are gradual improvement in the percentage of pa-
tients permanently cured.

As an aid to such improvements and refine-
ments, the present critical analysis of one hun-
dred unselected cases seen in the Grace Hospital
Varicose Vein Clinic are presented.

Complete Examinations Essential

The first and most important step preliminary
to treatment of varicose veins is to determine
whether the patient is a fit candidate for such
treatment. The importance of this "screening"
process cannot be over-emphasized. The old
Latin adage "nil nisi bonum," should be espe-

cially applied to this type of case. Great and
irreparable harm may be done to a patient's low-
er extremities by an ill-advised vein ligation.

In our series of one hundred cases, seven per
cent were rejected for any form of vein treat-
ment. Three of these had cardiac failure, two
had syphilis and one each had asthma and hyper-
thyroidism.

TABLE I. CAUSES FOR REJECTION FOR LIGATION

Arteriosclerosis	7
(Unsatisfactory Histamine Reaction)	
Deep Venous Obstruction	7
(Unsatisfactory Perthes Test)	
Cardiac Failure	3
Syphilis	2
Senility	2
Asthma	1
Reynaud's Disease	1
Hyperthyroidism	1
Acute Phlebitis	1
Lymphatic Obstruction	1
TOTAL	26

All but seven of these patients had some other more
conservative treatment.

Table I graphically pictures the contra-indica-
tions for ligations. As will be seen the arterio-
sclerotics and those with deep venous obstruction
account for more than half of the rejections.
This demonstrates the importance of determining
the status of the arterial and also the deep venous
circulations. The histamine and the Perthes tests
are valuable aids in this determination. The rest
of the cases emphasize the value of careful and
complete physical examinations in all vein cases.

Three tests are indispensable in the selection
of patients for varicose vein treatment. These
are the Trendelenburg test, the Perthes test
and the Histamine test. In our hands we have
found the modification of the Trendelenburg
test by the use of multiple tourniquets, to be
most valuable in locating the level of "blow-
outs" in the greater saphenous vein. Many fail-
ures in the ligation treatment can be traced
to an over-looked "blow-out."

A glance at Table II shows that twenty-one
per cent, or one patient out of five, has a Tren-
delenburg double test. This means that one-fifth
of our cases had a "blow-out" below the sapheno-
femoral junction in addition to incompetent
valves at this junction.

The Perthes test is very necessary to determine
the patency of the deep venous system. A patient
with an unsatisfactory Perthes test should not be

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treated by ligation or injection. In our series fourteen persons were rejected for treatment because this test indicated a disturbance with the deep circulation (Table II).

TABLE II. SUMMARY OF TESTS

TRENDLENBURG		
Positive	Double	Negative
96	36	37
(58%)	(21%)	(21%)
HISTAMINE		
No. Patients Tested		27
No. Satisfactory		50
No. Unsatisfactory		10
RATIO		
		5:1
PERTHES		
Satisfactory		
155 or 91.8%		
Unsatisfactory		
14 or 8.2%		

The histamine test is useful as an indication of arteriolar disease in the lower extremity. An unsatisfactory histamine reaction, as indicated by a lack of wheal formation and local erythema, should not of itself be a cause for rejection. But it does indicate that further study of the state of the arteries should be made. It should be remembered that the test is of little value in the presence of edema. Our work at Grace Hospital suggests that the histamine test closely parallels in its results such other tests for arteriolar disease as the saline disappearance test and skin temperature determinations. Hence, since the histamine test is much easier to apply, it is used routinely.

Many Complications Seen

We found in our series of one hundred cases that twenty-nine different diseases were encountered as complications. Some patients had two or more of these complications. For example, many of the older diabetics also had arteriosclerosis and hypertension.

TABLE III. GROUPING OF COMPLICATING DISEASES

I. FOOT AILMENT GROUP (Pes Planus and Halux Valgus)
23%
II. ENDOCRINE GROUP (Thyroid, Diabetics, Obesity)
19%
III. CARDIO-VASCULAR-RENAL GROUP (Cardiacs, Hypertensives, Arteriosclerosis, Nephritics)
38%

In Table III we see that the majority of the complications encountered fall into three large

groups. The cardiovascular-renal group leads with thirty-eight cases. Varicose veins are further evidence of a breakdown in the vascular system.

Foot ailments, especially pes planus, are associated with varicose veins in our series to the extent of twenty-three per cent. A poor blood supply to the feet certainly has a direct bearing on weak musculature, the cause of many cases of flat feet.

The endocrine group, found in nineteen cases, constitute predisposing causes for a varicose habitus.

Combined Treatment Satisfactory

Anyone who critically examines the problem of varicose veins will soon realize that the crux of the problem is venous stagnation produced by back-flow of blood through the saphenous system. To remedy this defect the surgeon attempts to interrupt this back-flow by some mechanical means.

Results achieved by combining the high ligation operation with the injection of sclerosing solutions have proven very satisfactory in interrupting this reverse flow in cases with a Trendelenburg positive. But, as indicated in Table II, more than a fifth of the cases seen have blow-outs in the lower thigh or upper leg. When the high ligation operation is done in these cases the back-flow is not adequately checked. Therefore, another operation must be done at the site of the "blow-out."

At present we find that modern veno-therapy combines one or more ligations of the saphenous vein with the injection of the veins in the leg.

TABLE IV.

Total No. Ligations	No. of Patients Ligated	High Ligations Only	High and Mid Ligations
100	74	64	11
High and Low Ligations	Mid Thigh Ligations	Ligations Below the Knee	Small Saphenous
10	2	8	5

Of one hundred operations on seventy-four patients, as shown in Table IV, twenty-one per cent had multiple ligations, that is, in addition to the operation at the sapheno-femoral junction, it was found necessary in eleven instances to tie off the

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saphenous in mid-thigh while in ten cases ligation was done below the knee. In another ten cases it was considered that ligation below the knee (eight cases) or in mid thigh (two cases) would suffice. In these last ten cases the Trendelenburg test was single (negative) and the ligation was done at the point of blow-out. There being no positive Trendelenburg test it was thought to be illogical to do a high ligation.

stances it was definitely established that the patients had "blow-outs" in the region of the knee. Hence, it must be concluded that either these "blow-outs" were overlooked or that they occurred after the original examination.

Perhaps thirty per cent of our series was examined by the original Trendelenburg test, i.e., with a single tourniquet. With this technic it would be very easy to overlook the smaller "blow-

TABLE V. PER CENT OF RECURRENCE OF VEINS

	Following Total Ligations	Following High Ligations	Following Mid Thigh Ligations	Following Low Ligations	Following Multiple Ligations
No.	100	64	2	13	21
Per Cent	11%	16.7%	0%	15.3%	4%

On this latter point it is debatable whether a high ligation ought not to be done prophylactically in view of the evident varicose habitus and the known fact that the majority of varicose vein cases eventually show patent valves in the region of the sapheno-femoral junction. However, if the surgeon understands that high ligation may eventually be necessary, the latter operation may be deferred until there is a definite positive indication for it. Such cases should be decided on their individual merits.

Eighty-nine Per Cent Success

It is interesting to note that in our series five ligations of the small saphenous vein were performed. This is a larger percentage than most observers report. However, we find that this percentage is being maintained in our next series of cases. The important point to be considered is that the small saphenous vein may be involved independently of the large saphenous and that in every case showing varicosities on the dorsum of the leg special care must be used to exclude the small saphenous vein. When that vein is involved, ligation in the popliteal area is necessary to effect a cure. This is especially true if there is a communication with the greater saphenous vein.

Table V shows the results obtained with these 100 ligations. Eight high ligations showed a recurrence of varicosities. Seven of these eight cases had Trendelenburg positive tests, or rather tests that were interpreted as Trendelenburg positive by the examining surgeon. In several in-

outs." With the multiple tourniquet test this error in diagnosis is not so likely to occur.

Very small "blow-outs" can be overlooked and later dilate if the valves in the communicating vein were at first only partially patent and later become completely incompetent.

A third fault may lie in not ligating all the collateral veins in the region of the fossa ovalis. In that event these collaterals would act as bi-passes and become varicosed in their own right. This is the primary reason for ligation of all branches in this area. In our earliest cases these branches were not ligated.

Only one recurrence was noted where the patient had multiple ligations. This is an extremely small percentage of recurrences in this type of case because patients with multiple "blow-outs" are prone to develop other patent communicating branches. They are never satisfactory subjects for varicose vein treatment because of this propensity.

The surprising fact is not that we had two recurrences following low ligations but that there were not more of them. This speaks well for the judgment of the surgeon who selected these cases.

It would be wrong to conclude that because a patient has a return of some varicose veins that the treatment has been a failure. In fact in our series only six patients showed a return of symptoms because of recurrence of varicosities.

Table V would be misleading if it was assumed that mid-thigh ligation was preferable to all others because no recurrences were noted. It must be remembered that these two cases were carefully selected on the basis of the multiple tourniquet test.

In a small series of cases such as this too much emphasis should not be placed on percentages. However, the margin of difference between the low per cent of recurrence following multiple ligations as compared to the definitely higher percentage following high or low ligations is sufficient to warrant the statement that, generally speaking, whenever low ligation is performed better results will be obtained if high ligation is likewise done.

Vein Injections Needed

Unfortunately, our method of treatment for varicose veins has not advanced to the point where a single operative procedure will bring about a cure. Hence, it is necessary in most cases to follow ligation with the injection of sclerosing solutions into the remaining varicosities.

TABLE VI. VEIN INJECTIONS

Number of cases	Total No. Patients Injected	Total No. Injections Given	Average Number Injections per Patient
100	73	494	6.76

Table VI shows that the average number of injections per patient was approximately seven. The average injection per patient was one cubic centimeter of sclerosing solution. The largest number of injections any patient received was 26. In this case a total of 31 c.c. of solution was used. While we have no figures available as to the number of injections given to non-ligated patients, the author's early experiences with the injection treatment alone indicates that ligation reduces the number of injections needed by approximately two-thirds.

At Grace Hospital we have used three types of sclerosing solutions: (a) sodium morrhuate, (b) sodium morrhuate with quinine alkaloid (formerly known as Moru-Quin) and (c) Monolate. In seventy-one per cent of our injections sodium morrhuate was employed; in nineteen per cent we used Moru-Quin; and in ten per cent Monolate was the solution of choice.

From this experience we are now inclined to favor sodium morrhuate with quinine as giving the most firm sclerosis and the most lasting results.

Of the 494 injections given only one moderately severe reaction was noted. This followed the injection of 3 c.c. of sodium morrhuate. A rather marked venous spasm and periphlebitis resulted. No patients were found to have an idiosyncrasy to any of the solutions used.

Summary and Conclusions

This analysis of one hundred cases of varicose veins leads to the following conclusions:

1. A complete physical examination, including pertinent laboratory work, should be done on every patient prior to the treatment of varicose veins. First, to rule out those patients who have a definite contra-indication for treatment of the varix, and second to discover and clear up complications which might delay the cure of the varices;
2. In the local examination of patients with varicose veins, three tests are valuable, viz.: (a) the multiple tourniquet modification of the Trendelenburg test, (b) the Perthes test, (c) the Histamine test;
3. Failure with the combined ligation-injection method of treatment is principally due to (a) missed "blow-outs" which also need ligation or (b) failure to ligate one or more branches of the great saphenous vein at the sapheno-femoral junction;
4. That care should be used to locate "blow-outs" in the communicating veins is shown by our finding that one out of five cases examined had patent valves in the communicating veins;
5. Varicosities on the dorsum of the leg should lead the surgeon to investigate the small saphenous vein. It may be involved independently of the great saphenous system or there may be a communicating branch between the two which will require ligation;
6. Check-up indicates that of 100 ligations performed, eleven per cent showed a recurrence. But only one recurrence was found among the

cases where multiple ligations were done. This indicates that care must be exercised to locate all "blow-outs" and ligate them. We have found the multiple tourniquet test a most valuable diagnostic aid for this purpose;

7. Vein ligation preliminary to the injection of sclerosing solutions definitely reduces the number of such injections needed;

8. No idiosyncrasy to sodium morrhuate was noted in 494 injections. Only one moderately severe reaction was observed. This reaction followed the injection of 3 c.c. of solution. The practice in our clinic now is not to inject more than 2 c.c. of solution at any one time.

Varicose Ulcers

The Newer Methods of Treatment*

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■ VARICOSE ulcers are usually on the inner surface of the leg, just above the inner malleolus. They are usually single but they may be multiple and at times coalescing, causing an irregular and extensive skin destruction which may surround the entire leg. It is the most common type of leg ulcer and one which requires a great deal of time and patience to cure, especially when accompanied by severe complications. Very large ulcers of long standing can be cured by ambulatory treatment now, that previously required skin grafting even after a long course of treatment.

Treatments

When ulcers are badly infected, which is the rule rather than the exception, this condition is treated first to give relief from pain. This is done by placing sulfanilamide powder directly on the ulcerated and infected area. Directly over this is placed a modified Unna boot. The purpose of the boot is to give support for the collapse of the varicosities and to keep the sulfanilamide powder in place.

*From the Varicose Vein Clinic, Grace Hospital, Detroit, Michigan.

In severely infected ulcers having a great amount of foul odor, it is only necessary to repeat these applications on the average of once each week. After the first few treatments the ulcer craters are not only free from the foul discharge but a healthy adherent crust usually has



Fig. 1. (left) Varicose ulcer two months after high and low ligations and a series of iontophoresis treatments. (right) The same patient one month after using sulfanilamide powder and boot treatments.

formed. Under this adherent crust the tissue appears healthy with a tendency to normal healing from the bottom. The patient is grateful, particularly for the relief of pain from which a great many suffer. Most patients report that the pain subsides by the time the boot is applied and relief from the pain lasts until the next treatment. This therapy seems to be just as effective when there is mixed infection as when the culture is purely of streptococcic organisms.

A number of drugs and methods of treatment have been used in a series of ulcer cases with rather slow results. Among these may be enumerated the following: gentian violet, brilliant green, azochloramid solutions, cod liver oil ointment, urea solutions and powder, allantoin ointment, adhesive strapping, injections of autogenous blood around and under the ulcer, ultra violet light exposure and iontophoresis with acetyl-beta-methylchlorine chloride. Next to the sulfanilamide powder and modified Unna boot

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treatments, the application of urea powder directly to the ulcer with the same type of boot seems to be more advantageous than any other methods in clearing the infections and promoting healing. The urea powder smarts upon application. It clears the infection more slowly than the sulfa-

The type of ligation necessary depends entirely upon the points of valve incompetency causing the venous reflux or stagnation. Ligations should be done at all points necessary to control the back flow. A high ligation may control the situation sufficiently but the majority



Fig. 2. Extensive varicose ulcers cleared of infection and healing three weeks after sulfanilamide powder and boot treatments.

nilamide powder and leaves a more tender, raw appearing surface which tends to bleed easily.

The quick relief from pain and infection make it possible to perform the necessary ligations early in the course of treatment.

At times the ligation wounds heal slowly and weakly to the extent of re-opening when the sutures are removed after six to eight days. Sulfanilamide powder placed in these open wounds tends to make them heal more quickly when no infection can be demonstrated in the wound. There seems to be a stimulating or catalytic effect upon the tissue healing as well as a bacteriostatic action.

Although sulfanilamide powder in a wound checks infection, it should not make for a less aseptic operative technic. Ligation operations should be done in a hospital under conditions found best for all operative procedures. This precaution is carried one step further by applying flexible collodion over the incisional wound after it is closed by a subcuticular dermal or silk worm stitch. This precaution is advisable because dressings are too frequently displaced by clothing rubbing on the legs of an ambulatory patient.



Fig. 3. Varicose ulcer healed after three weeks of sulfanilamide powder and boot treatment.

require other ligations in the lower leg and occasionally some additional ones in the thigh. Sclerosing of these ligated segments wherever necessary with 5 per cent sodium morrhuate quinine solution two to three weeks following ligation makes a more satisfactory and permanent cure.

Building up the general health is done concurrently with the pre-operative treatment when there is a co-existing disease such as anemia, diabetes, syphilis, tuberculosis, avitaminosis et cetera. When severe, these complicated cases cannot always be treated while the patient is ambulatory but are better treated by a combination of the local treatments, general health measures and complete rest in bed.

The aggregate treatment time per patient using the sulfanilamide powder and boot has been cut down to nearly one-half the time required in the series receiving the varied treatments previously used as shown in Table I. Each group contained average cases to compare as fairly as possible. A few of the old cases that had been

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treated by various other methods started healing at an accelerated rate when the sulfanilamide powder and boot treatment was started.

Iontophoresis was disappointing in promoting rapid healing for chronic varicose ulcers. It is used to good advantage, however, over the old

Conclusions

1. Most varicose ulcers may be treated with the patient ambulatory.
2. Sulfanilamide powder applied to an ulcer, covered by a modified Unna boot for support, is a valuable adjunct to ligating and sclerosing

TABLE I

	Ulcers patients treated	Ulcers treated	Aggregate weeks treated	Aggregate weeks treatment per patient
Previous cases treated	34	40	241	6
Sulfanilamide boot treatment	21	27	93	3½

TABLE II

Total ulcer cases ligated	Boot only	Ligation only	Boot and Ligations	Miscellaneous treatments
32	12	4	16	21

TABLE III

Sulfanilamide with boot and ligations	Sulfanilamide with boot only	Unna boot autogenous blood injections	Urea powder or solutions
12	9	5	15

ulcer area to improve the circulation and strengthen the new formed skin.

Applications tending to dry the ulcer exudate seem to hasten healing more than wet dressings as a general rule and they are more easily worn by the ambulatory patient.

When a large ulcer has been present for several years with extension around the entire leg and there is a dense scarring over a large area, skin grafting is the procedure of choice. The ulcer with the scar tissue is removed and the wound allowed to granulate. Over this a full thickness split skin graft is more apt to take and stand up under the abuse that is so likely to occur about the lower leg region. This, of course, is not ambulatory treatment and will be necessary in very few cases.

varicose veins for a more rapid and comfortable varicose ulcer cure.

3. Proper examination to determine patient's general and local treatment requirements is a necessary prerequisite.
4. Early ligation is the best method to prevent ulcer formation. Proper placing in industry of patients with varicose veins diathesis, when possible, would be of some help.
5. Ligate all venous segments to prevent venous backflow.
6. Sclerose with 5 per cent sodium morrhuate quinine solution the ligated venous segments after a lapse of from two to four weeks.
7. Check patients after treatment at three to six month intervals to ascertain their condition.

The Eye

In General Practice*

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■ PREVENTIVE medicine is the aim of all conscientious physicians and the eye specialist strives always toward conservation of vision and the prevention of blindness. He looks to the general practitioner as his greatest ally in carrying out this program, because the patient with an eye injury or an eye ailment very frequently makes his first appeal to the family doctor. This is just as it should be, and to justify his patient's confidence the family doctor should have sufficient knowledge to render proper emergency treatment and to correctly advise the patient. The facts to be presented are so fundamental that every doctor in every field should be familiar with them. Patients have a right to expect intelligent advice along these lines.

Congenital Stenosis of the Nasolacrimal Duct

The first condition I wish to discuss is congenital stenosis of the nasolacrimal duct. It is rather frequent and is usually noticed in the first few weeks after birth. It is due to failure of the duct to open at its lower end. Normally, the duct which develops from a solid cord of cells, becomes patent during the last month of the intra-uterine life. If the development of the duct is not complete at birth the condition soon manifests itself by watering of the eye and a slight muco-purulent discharge. Usually the conjunctive is not inflamed. Sometimes there is some swelling over the region of the lacrimal sac, but usually the only symptom is the lacrimation. The condition is serious only if the lacrimal sac becomes secondarily infected. This will not occur if the treatment instituted is prompt and proper. Usually the condition is self-limited. That is, in a certain number of cases the duct will open of itself, spontaneously. Other cases require gentle but frequent massage over the

lacrimal sac. This forces the contents of the sac into the nose by pressure, thus establishing the patency of the duct. All cases should for a few weeks be treated by massage. At the same time a mild antiseptic drop, such as 10 per cent argyrol or 1:1,000 aqueous merthiolate, can be instilled into the eye several times a day to prevent infection. Unfortunately some cases are resistant to the above method, and if after 3 or 4 weeks of treatment the duct is still closed it should be probed. This procedure should be left to the ophthalmologist since considerable skill is required to avoid making false passages with the probe.

Mothers whose babies suffer from congenital atresia of the nasolacrimal duct are usually concerned out of all proportion to the seriousness of the condition. By promptly recognizing it and instituting proper treatment the physician can do much to relieve the anxiety and gain the confidence of the parent. The prognosis is always good yet no promises as to the effect of massage should be made since some cases do require probing.

Foreign Bodies

Of all the types of ocular injuries probably the one most frequently seen in general practice is the foreign body in the eye. It is almost a daily occurrence for a patient to have something fly into the eye. Little particles of coal, cinders, dirt, grains of sand, or wings of insects are frequent offenders. In industry bits of metal, emery etc., are frequently found. These may lodge on the surface of the eye and frequently the movement of the lids and the washing effect of the tears is sufficient to dislodge them. When this does not occur they remain in the eye, either under the upper lid or imbedded in the superficial layers of the cornea. When the foreign body lodges under the upper lid the favorite situation for it is in the subtarsal sulcus, a small groove running along the inside of the eyelid, parallel to and just above the lid margin. This is easily seen by everting the lid. Foreign bodies imbedded in the cornea are seen with more difficulty especially if they are small. They can best be found if the eye is examined by oblique illumination in which a beam of light is focused upon the eye with a magnifying lens from a

*Read before the Noon Day Study Club, Detroit, February, 1940.

source about 2 feet distant. By focusing the light directly upon the cornea small foreign bodies are easily seen. Sometimes it is easier to demonstrate opaque foreign bodies in the cornea by throwing a light behind them on the iris, against which they stand out sharply, especially if the iris is of light color. A binocular loupe is an almost indispensable aid in examining the anterior segment of the eye. When a foreign body lodges in an eye the eye usually becomes photophobic, painful, lacrimates, and the conjunctiva becomes injected.

The chief symptom is the pain and most patients will make the diagnosis themselves. The pain is more severe when the foreign body is lodged beneath the upper lid since with every movement of the eye or eyelid it scrapes against the cornea. In such cases the eye feels better when it is held tightly closed. When the foreign body is lodged on the cornea there is hardly any pain at all, only a slight discomfort, except when the eye is closed. Then the lids rub over the foreign body and the pain is more pronounced. Consequently these cases characteristically feel better when the eye is open. Patients with corneal foreign bodies frequently wait until the middle of the night to seek medical aid, even though the foreign body has been present most of the day. This is because the eye is not too painful until the patient tries to sleep; closure of the eyes aggravates the pain and prompts the patient to call his doctor.

Foreign bodies under the upper lid are easily seen when the lid is everted and may be removed with a wet cotton applicator. A dry cotton applicator will remove the foreign body just as well but it may leave little wisps of cotton behind. When the foreign body becomes imbedded in the cornea a local anesthetic should always be used before its removal is attempted. Pontocaine hydrochloride in $\frac{1}{2}\%$ solution is one of the best for this purpose. It does not deteriorate on standing and it is self-sterilizing. 2% butyn or 1% holocaine may be used although both of these drugs are somewhat irritating to the eye. It is unwise to use cocaine because of the drying effect which it has on the corneal epithelium and because it produces dilation of the pupil.

In using pontocaine 2 drops instilled in the eye 1 minute apart are sufficient to produce satisfactory anesthesia. The foreign body should be removed with a wet cotton applicator if possible. When the foreign bodies are more deeply imbedded they must be removed with a spud, an instrument shaped like a small rounded spade being the best for the purpose. They should be had in several sizes since a spud 2 mm. wide used to pick out a foreign body $\frac{1}{2}$ mm. in diameter is a clumsy relic and causes unnecessary damage to the cornea. If no spud is available an ordinary hypodermic needle may be used although care should be exercised not to penetrate the corneal stroma too deeply. The spud is sunk into the cornea just to the edge of the foreign body, slid under, and the fragment lifted out. Very frequently foreign bodies, especially those which are hot when they strike the eye, such as small chips of metal or emery, leaves a dark brown or black ring of stain in the corneal tissues surrounding the point of impact. This stain should be thoroughly removed by scraping with the spud or by means of an ordinary dental burr.

After removal of the foreign body treatment must be directed toward the corneal abrasion. Any break in the corneal epithelium represents a potential entry point for bacteria. The resulting ulcer can be of disastrous consequences, even resulting in the loss of the eye. Even foreign bodies lodged under the upper lid cause some abrasion of the cornea due to the fact that they rub against it every time the eye winks. I make it a practice after removing a foreign body to thoroughly flush the eye with boric acid solution. A small amount of some antiseptic salve such as 1:5000 mercuric bichloride or 1:1000 merthiolate is instilled in the conjunctival sac. The eye is then covered with an eye pad, since the corneal epithelium will heal more rapidly if the eye is kept as quiet as possible. The patient is instructed to keep the pad on for 24 hours and then to remove it and wash the eye three times daily with boric acid solution for several days. It is always important to see the patient at least within two days in order to be sure there is no ulcer developing. Care of any ulcer which does develop should be left to the specialist.

The patient should always be told after a removal of a foreign body that after the anesthetic wears off the feeling as if there were something in the eye will return. If they are not told of this they will often present themselves again in three or four hours complaining that there is still something in the eye. In this connection it is well to remind one that a search should always be made for multiple foreign bodies. An eye in which one foreign body has been found may contain another and it is embarrassing to remove one foreign body from the cornea and then to find another in the superior cul-de-sac several hours later.

I should mention that some foreign bodies, especially in industry, strike the eye with such force they perforate the cornea or sclera and enter the eyeball. Usually these are self-evident and must be given prompt attention by an ophthalmologist. Occasionally, however, a patient presents himself with a history of something striking the eye and the examination fails to reveal anything wrong. The patient may have no discomfort whatever. In such cases, where no foreign body can be found on the cornea or in the cul-de-sac an intra-ocular foreign body must be suspected. The history will help a good deal here. People do not get intra-ocular foreign bodies while walking along a windy street. Operators of emery wheels and polishing wheels very rarely have foreign bodies strike with sufficient force to enter the eye. If, however, the patient was injured while operating a punch press, an electric drill, a grinding machine, or while hammering with steel on steel an intra-ocular foreign body is a good possibility. When any suspicion exists an x-ray should be ordered and the specialist consulted.

Every case of ocular injury or ocular disease should have the vision tested before anything is done. This is very important in any case but is especially so in industrial accidents. This little precaution may save the doctor a great deal of trouble later on. It is important because the patient may present himself with an injury of one eye, let us say corneal foreign body is present, and upon taking his vision it is found to be 20/200 in that eye. Later after the foreign body is removed and the

cornea healed the patient may return and claim the treatment he got was so poor that it destroyed his vision. If the doctor is not fortunate enough to have a record showing that the patient had poor vision before he was treated he may find himself "on the spot."

Vision testing is a good habit to get into in every case. It cannot really be said that general physical examination is complete without a test of visual acuity. In patients over 40 years of age, this should include a test of the near vision as well as at 20 feet. The test should not be omitted in children just because they cannot read. An ordinary letter E chart costs only 30 cents at any optical house and most school children are familiar with it since it is the one used in the schools. A visual acuity of 20/20 is considered normal. However, a vision of 20/30 need not be considered abnormal especially in very young or very old people. A vision of 20/40 is definitely subnormal and should be considered sufficient cause for referring the patient for an eye examination. It should be unnecessary to mention that patients who wear glasses should be tested with them on.

Sties

Sties are something that all general physicians are not infrequently called upon to treat. They are usually seen in children although they may occur at any age. The commonest type of stye is the hordeolum externum, which represents an acute suppurative infection of the glands of Zeis or the hair follicles of the eyelashes. It begins with some edema of the eyelid localized over the affected gland. Sometimes the edema is very marked, especially if the stye is located near the external canthus. After a day or two a well-defined, red, tender nodule appears over which the skin is tense, and the lesion is extremely tender. This soon begins to "point," usually through the skin and eventually ruptures and expels a good deal of free pus.

Patients usually make the diagnosis of a stye themselves. However, the condition must be distinguished from chalazion. This is usually easy to do since a chalazion is a practically painless small round tumor of the

lid which has usually been present for some weeks before the patient presents himself. It represents a chronic infection of a meibomian gland and upon everting the lid can be seen to be pointing toward the conjunctiva. Occasionally a chalazion becomes acutely infected and it is then sometimes hard to distinguish from a sty. The diagnosis can be made by the history, by the situation of the swelling and by the direction of pointing.

If a sty is seen very early before suppuration has begun it may be aborted by removing one or two eyelashes at the apex of the swelling and by frequent hot compresses. More often, however, the effect of heat is to cause the lesion to break down. The sty then becomes softer and begins to point. At this stage it may be incised parallel to the lid margin with a sharp knife. This is at best a very painful procedure, and since most cases seen are children it is a difficult one. It has been found to be better practice to continue the hot compresses until the lesion ruptures spontaneously. Until this occurs the lid margins should be covered with an antiseptic ointment such as White's ointment (mercuric chloride) or mercuric bichloride 1:5000. Once the lesion ruptures the eye should be frequently washed out with boric acid solution to prevent auto-infection.

of acute inflammatory disease of the eye: conjunctivitis, iritis, and acute congestive glaucoma. The differentiation of these conditions is so important and so much vision is lost because one is mistaken for another that all physicians should have them well in mind. It is not unusual for an ophthalmologist to have a patient come to him with a history of having had a red and bloodshot eye, with some tearing and very little pain for a week or two. Upon going into the history further it is discovered that the patient visited his family doctor who treated the eye with argyrol and boric acid solution for several days and did not refer the patient until the condition became progressively worse and the vision blurred. The examination reveals an acute iritis or an acute congestive glaucoma instead of the supposed pink eye which the family doctor thought he was treating. Even worse than this is the less common occurrence of a patient suffering from acute congestive glaucoma being treated with atropine because the doctor had arrived at a diagnosis of iritis. Sometimes glaucoma is confused with a neuralgia or a toothache and much valuable time is wasted before the correct diagnosis is made.

Differential Diagnosis of Inflammations

The accompanying table serves to help in the differentiation of these diseases:

	Vision	Injection	Anterior Chamber	Pupil
Conjunctivitis	Normal	Chiefly in cul-de-sac and angles	Normal	Reacts normally
Iritis	May be reduced	Circumcorneal	Normal	Pupillary margins may be bound down. Usually small.
Acute Glaucoma	Always reduced	Generalized, more deeply red—venous	Shallow	Dilated. Does not react well.

Sties are frequently a result of eyestrain of one sort or another. Consequently patients with successive sties should be referred for a careful refraction.

Acute Inflammation

There is another problem which not unfrequently presents itself to the general practitioner, a problem of diagnosis rather than treatment. I refer to the differential diagnosis

In conjunctivitis if there is any formation of mucous or purulent discharge it is formed in the cul-de-sacs and overflows into the lid margins. In iritis, however, any discharge thrown off by the iris is retained in the anterior chamber and the ordinarily clear aqueous fluid becomes cloudy and thus may decrease the vision. Vision is not reduced in simple conjunctivitis. In acute glaucoma the vision is reduced first because the steaminess of the cornea prevents rays of light

from entering the eye in a normal manner and secondly because of the great pressure upon the optic nerve head. The injection in conjunctivitis is limited to the posterior conjunctival vessels. These vessels are movable when the conjunctiva is moved. The greatest redness is seen in the fornices and it becomes less in amount toward the cornea. The color is black red. In iritis the injection comes from the anterior ciliary vessels, which are immovable when the conjunctiva is moved. The redness is circumcorneal and less toward the cul-de-sacs. It is a lighter red than that seen in conjunctivitis. In glaucoma the injection is due to a venous stasis. In mild attacks the only congestion may be circumcorneal but in the severe forms the entire bulbar conjunctiva and sclera present enlarged and dilated vessels so dense that a uniform dark red color is produced. Some of the injected vessels are movable while others are not.

In conjunctivitis the cornea is perfectly clear as it is also in iritis. In glaucoma, however, it presents a characteristic appearance known as "steamy." The cornea suffers from edema, loses much of its transparency and has the appearance of a piece of glass which has been breathed upon.

The anterior chamber is invariably shallow in acute congestive glaucoma, sometimes so much so that it is difficult to detect any space between the cornea and the iris. The depth of the anterior chamber is normal in both iritis and conjunctivitis. The conditions of the pupil is very helpful in differentiating these diseases. In conjunctivitis it is of normal size and shape and reacts promptly in normal manner. In iritis it may be small and the pupillary margins of the iris will be bound down to the lens so that it does not react. In glaucoma the moderately dilated, irregular and rigid pupil is a characteristic sign.

Strabismus

The family physician is often the one first consulted for advice in the management of the cross-eyed child. It is sad but true that he frequently advocates a waiting policy until the child reaches school age. This deliberate procrastination is nothing short of pernicious for in many cases these children do not receive attention early enough to secure a complete correction of the deformity. Needless to say the treatment of a squint is definitely in the field of the specialist.

The role which the family doctor or the pediatrician plays should be solely advisory.

No child is too young to receive some form of treatment, and with the perfection of non-shatterable lenses, the youngest child can wear glasses safely. If care is not instituted early the sight in the squinting eye may be lost. Some parents blame the occurrence of squint on a previous severe illness. This idea is wrong and should be explained to them. Squint is almost always due to a faulty fusion faculty. However, severe illness or fatigue may make manifest a latent squint or exaggerate a previously existing one. Glasses do not always correct a squint and parents should not be told that they will. Exercises or operation may be necessary before the squint is fully corrected. But whether refraction, exercises, operation or a combination of all three are necessary the results will be better if the child is seen early.

Comment

The principal aim of any program of medical training is to produce efficient general practitioners for the service of the community. A program which tends to fill the mind of the practitioner with an encyclopedic though vague knowledge of all subjects rather than a precise knowledge of the common ones is ill-calculated to achieve its object. Of the special subjects, ophthalmology is so advanced, progressive, and vast that it has become more than a full time job.

The foregoing review was not intended to give the impression that the ophthalmologist should be the only one to treat any eye condition; far from that. There are many instances in which the general physician must and should assume the responsibility and he is less apt to have unpleasant experiences if he is reminded in advance of their possibility.

"* * *The federal government, and to a lesser extent other divisions of government, in the last several years has projected itself into medical practice in such manner as to cause all thinking physicians to evaluate anew the relationship of socially minded legislative performers to the field of medical practice. . . . The physicians of Illinois must decide to what extent their societies and publications shall feel free to point out that certain individuals in politics detrimentally effect the cure of the sick. In so doing we will abandon our historic neutrality in politics but the time has come to be for or against candidates for office because of their views or practices affecting our well thought out, effective and time-tried methods of caring for the ill.—From "The Political Doctors," Editorial in the *Illinois Medical Journal*, September, 1940.

Nasal Polyposis

By Neil Bentley, A.B., M.D., F.A.C.S.

Detroit, Michigan

NEIL BENTLEY, M.D.

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■ THE MATTER of the relationship of nasal polyps to nasal sinus infections has been given a lot of attention by many authors. It resembles the age old query "which came first the egg or the chicken?"

Certain it is that the presence of nasal polyps in the region of the middle meatus will tend to produce sinus infection. Single polyps have been found where no sinus infection existed, if we are to believe the results of x-ray, transillumination and nasal inspection, including the view with the nasopharyngoscope. However, I have never seen multiple nasal polyps where a sinus infection could not be conclusively demonstrated. Certainly a continuous discharge of pus is irritating and this may cause polyp formation.

However, we see many chronically discharging nasal sinuses where no polyps have arisen, even though the sinuses have discharged for many years. Why? Today I think we have the answer. Nasal polyps usually occur in allergic patients who develop a sinus infection. The larger and more extensive the polyps, the more certain are the sinuses to become involved.

A lot of study has been given to the question of whether the bone is invaded by the polyps or if the bone is first affected and the polyps result from the diseased bone. Most authorities now feel that the changes are primary in the mucous membrane and that the bone changes are secondary. Certainly we do not often see changes in the bone of the maxillary antrum; yet a large percentage of cases of nasal polyposis do show marked changes in the membrane of the antrum. This view is supported by Hajek, McKenzie, J. Wright.

"S. J. Kelley has made an interesting analysis of 100 cases of bronchial asthma referred from the Department of Allergy to the Department of Otolaryngology of the New York Hospital. A thorough

study of these cases based on x-ray studies, nasal inspection and antral lavage, showed 83 per cent of the 100 cases had chronic hyperplastic sinusitis involving one or more of the sinuses. Sixty of the eighty-nine cases with chronic hyperplastic sinusitis presented allergic nasal membranes and twenty-three of these patients were found to have nasal polyps."—1937 Year Book, Eye, Ear, Nose and Throat, page 484.

Diagnosis

The diagnosis of the nasal polyp is usually quite easy. It is of greyish soft consistency, looking not unlike a peeled grape. With a cotton tipped applicator, it is freely moveable and feels soft. Many become more fibrous and may then be confused with a turbinate. Many men who have not had special training mistake a bulging turbinate or a septal deformity for a polyp. The careful use of a probe will easily correct any such mistake.

Many polyps begin in the posterior half of the nose and are not visible by anterior rhinoscopy. Here the nasopharyngoscope is invaluable. With this instrument, pus, polyps and polypoid degenerations are clearly detected.

A smear of the nose should always be made for eosinophiles. They are always increased in allergic patients and may run from 10 to 40 per cent, sometimes as high as 80 per cent. Where there is a more active sinus infection there will be a lot of pus cells present, and accordingly a smaller percentages of eosinophiles. A clumping of eosinophiles is particularly significant of an allergic background.

A careful search for an allergic history is very important. Eczema is often encountered. The allergic mucous membrane is pale, swollen, and edematous and pits on pressure by the applicator. There is a history of a lot of sneezing, watery discharge, frequent colds or that their colds last all year.

The symptoms of nasal polyps develop insidiously and often pass unnoticed, being regarded merely as a cold. Nasal obstruction gradually develops, but may be only transient at first. When the polyps are in the upper part of the nose there may be fair breathing. Sneezing becomes frequent, with a sense of stuffiness and often loss of smell. With the gradual increase in the size of the polyps a nasal tone is developed, which may be easily recognized. It may take several years before

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the polyps attain great size. They develop so slowly that we often find them growing down into the nasopharynx or extending out into the nares, without the patient being much upset by their presence. While the nasal polyp is very soft they may be packed so tightly into the upper nares as to separate the nasal bones, giving a characteristic broad appearance to the nose.

A single smear of the nasal secretions that is negative for eosinophiles must not rule out an allergic background. Several smears should be made on different days. When a smear does show a positive high percentage of eosinophiles, the patient should then be given the skin tests for allergy, either the scratch or intradermal tests, or both.

The patient should then be separated from those articles to which he is allergic. In foods, articles of clothing, toilet products, this may be comparatively easy. This matter of treatment for allergy is, however, outside the limits of this paper. It cannot be neglected, however, if we are to give satisfactory results to these patients.

I like to have an x-ray of the nasal sinuses made in all these cases of polyposis. Invariably the ray will show involvement of the antra and ethmoids. I like the ray particularly to show up the sphenoids and posterior ethmoids. When polyps are in the nose, I ask for a search for polyps in the antra, ethmoids, and sphenoids.

Polyps are often diagnosed in the antra, where no polyps are found in the nose. Unless there were clinical evidence of sinusitis in the nose, I refuse to operate such sinuses on the x-ray finding. I have never seen any clinical evidence to cause me to regret this policy. I don't feel that the x-ray finding of a polyp in the antrum is dependable where no polyps are seen in the nose with the nasopharyngoscope.

Many of the cases that come to the rhinologist, however, have such large nasal polyps that they completely obstruct the nostrils. X-ray studies, transillumination of the sinuses invariably shows a panusitis involving the antra and ethmoids. Often the sphenoids are involved.

Treatment

Temporizing with these cases is useless. I prefer to do a bilateral Caldwell Luc operation on the antra and ethmoidectomy. Often the

middle turbinate is cystic or shows polypoid degeneration. In such cases the anterior half or third of the middle turbinate should be amputated. This bilateral Caldwell Luc and ethmoidectomy can be done at one sitting under local anesthesia, with preliminary barbituric acid ingestion. Since there is some hemorrhage that requires packing, the second side can be done whole you are waiting for the packing to dry up the hemorrhage in the first side.

The entire lining of the antrum is removed. Particular attention must be given to the outer angle and the anterior wall of the antrum is removed as far to the temporal side as is necessary to get at this outer angle. The roof and anterior nasal angle must also be cleaned out thoroughly. Care must be taken to avoid the infraorbital nerve.

The antro-nasal wall under the inferior turbinate is removed and the membrane incised under the attachment of the inferior turbinate and a flap of mucous membrane turned down into the antrum. A vaseline gauze drain is packed down from the nares into the antrum, and the membranous incision under the lip is sutured.

Any intranasal polyps are removed by snare and punch forceps. If the ethmoidal cells are invaded by polyposis, as they usually are, they are cleaned out with punch forceps and curettes, care being taken not to fracture the orbital plate. Many times the sphenoid sinus is involved and any necessary treatment is given at the same time.

Usually the middle turbinate is left alone. If it is very cystic or shows polypoid degeneration, the anterior end is removed with scissors and snare. It is not removed, however, until all other surgery is completed. The attachment of the middle turbinate is our safety landmark and no operating should be done above its attachment.

The removal of the polyps and drainage of the nasal sinuses is only the beginning of our treatment of the patient with nasal polyposis. The patient must now be treated from the standpoint of allergy. This has already been mentioned, but a very thorough search and history must be made if you are to find to what things the patient is allergic. House dust is a very common offender, and likewise the dust from the factories that the men might be working in. This would require such a detailed study that I haven't time to enter into it at all fully just now.

The patient with nasal polyposis is told at the beginning that he must be under treatment for three years after the operation. It is then explained to him that this doesn't mean that he is to rent rooms at my office, but that he must be under my observation for that length of time. At first we see him three times a week following the operation, then it drops to once a week, once a month, once every three months, and the latter part of the three year period he will be seen just every six months. Whatever treatment that is necessary for the nasal sinuses must be carried out.

Frequently there will be recurrence of some of the polyps. This is easily understood when we consider that we do not exenterate all of the ethmoid cells.

Polyps are largely water, and during the process of operation they become pricked and deflate like a toy balloon. A few weeks or months later we may find a recurrence of some of these polyps. When they do recur they must be removed. Treatment of the membrane with silver nitrate is a very effective way of keeping down the formation of granulation tissue and polyps. The primary consideration must be given to the removal of the things to which the patient may be allergic and treatment of septic nasal sinuses.

Several men have reported on the use of radium in nasal polyposis which has frequently been followed by disastrous results. There are reports by Eric Watson, Williams and others in the British literature that two cases went on to severe nasal atrophy following the use of radium. Some had severe adhesions. One case reported has a perforation of the hard palate. In another case there was necrosis of the ethmoid and cribiform plate. Personally, I have never used radium or roentgen ray therapy in cases of nasal polyposis. I have seen cases of cataract following the use of roentgen ray. Other cases develop a severe atrophy of the secreting membranes so that a very dry nose results.

Treatment with surgery and a very careful follow-up will result in a satisfactory cure. This treatment must consider removal of all substances to which the patient may be allergic or may require shots to desensitize. If the polyps are small, and the patient is allergic I feel that it is permissible to use anti-allergic treatment

and see if this will clear up the polyps without any surgery. This often happens. Where the polyps, however, are of large size and are heavily entrenched in the antra and ethmoids surgery must first be used. We find, however, it better for surgery to be postponed until we are outside of the Hay Fever calendar.

Subacute Bacterial Endocarditis

An Apparent Recovery

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■ AN EXHAUSTIVE study of the literature reveals the following facts about subacute bacterial endocarditis, which have seemed to me of importance.

To make certain the diagnosis of this condition, which carries with it such a serious prognosis, four findings are necessary, viz: the evidence of a valvular lesion, persistent fever not otherwise explained, embolic phenomena, and more than one blood culture, positive for a certain organism. There are observers, notably Libman,^{10, 11} who feel that there are milder cases possible of recognition, which do not have all these four findings; but to others, including the author, these cases constitute a condition different from that which we recognize as subacute bacterial endocarditis. The German writers seem to me to make this diagnosis very easily with a resultant larger percentage of recoveries. For example, they describe as subacute bacterial endocarditis a case of mastoid disease, which, following operation, had a positive blood culture, a cardiac murmur, and even may have been in heart failure from rheumatic heart disease with embolic phenomena to be explained on the basis of the congestive failure.

It seems to me the only safe diagnosis of the condition rests in finding all four criteria—valvular disease, fever without other obvious cause, embolic phenomena, and positive blood cultures.

The streptococcus viridans, the most common organism found in these cases, occurs in 95 per cent. The blood cultures should be observed for three weeks, as it is not uncommon to have the growth of organisms become evident only after eight to thirteen days. Occasionally other organisms are the causative agents: non-hemolytic streptococcus; the Pfeiffer organism, in which the course is very chronic; the pneumococcus, invariably fatal; and the gonococcus, not invariably fatal.

Sometimes the onset of subacute bacterial endocarditis follows directly respiratory infection or the disturbance of a focus of infection, eg., the extraction of an infected tooth. Thayer¹⁸ of Johns Hopkins, reported thirteen cases out of one hundred following directly tonsillitis, sinusitis or dental extraction.

Usually there is a valvular lesion preceding the onset of subacute bacterial endocarditis—either rheumatic or congenital in etiology and possibly rarely luetic. Brink and Smith,² of the Mayo Clinic, reported rheumatic heart disease with a history of acute rheumatic fever in 51 per cent, rheumatic heart disease without history in 17 per cent—no valvulitis in 32 per cent. Thayer reported, similarly, 70 per cent with a preceding valvular lesion—6 per cent congenital.

Differential Diagnosis

The differential diagnosis demands the separation of the condition from rheumatic endocarditis. This latter may be very fulminating in young individuals and cause death. It is differentiated by the history of preceding attacks, the more severe joint symptoms which may be present, the presence of rheumatic nodules, the finding of pericarditis occurring in 60 per cent and very rarely in subacute bacterial endocarditis, the absence of true embolic phenomena, and, finally, the negative blood cultures. Seventy-four per cent of cases of subacute bacterial endocarditis have embolic phenomena somewhere. Sixty-one to 74 per cent have albuminuria. Fifty-three per cent have a palpable spleen. Forty-four per cent have clubbing, according to Thayer.

The duration of the disease is from weeks to years—usually when definitely established, one year or less. Thayer, out of 100 cases, had 8 last more than one year. Brink and Smith had no cases out of 37 live longer than one year.

There is incontestable pathological evidence

that healing occurs in the vegetations of subacute bacterial endocarditis. Louis Hamman^{6, 7} reported many cases in which vegetations were almost healed and occasionally completely healed. Thayer speaks of longstanding partial organization of the vegetations, scarring, calcification and partial healing. Soma Weiss¹⁹ reported lesions typical of subacute bacterial endocarditis entirely healed, in patients without symptoms and in whom death occurred from some other cause, and asks himself—are these cured cases of subacute bacterial endocarditis?

Prognosis

From the evidence in the preceding paragraph, the problem of prognosis follows. Many authors have published series of subacute bacterial endocarditis cases. The prognosis varies from Willius⁴ statement that the prognosis is hopeless and that cases of reported recovery did not have the criteria for diagnosis, and that of Paul White and Kurtz⁹ that the disease is almost 100 per cent fatal, to the epidemic of positive blood cultures reported from Toronto by Graham, Oille and Detweiler¹⁶ in which there was a high percentage of recoveries. E. Libman is of the opinion that there are many cases, usually unrecognized, that recover. Several have reported the occasional case with recovery.^{1, 3, 5, 8, 12, 13, 14, 15, 17} Perrin H. Long,¹² in his recent monograph on the use of sulphanilamide, reported, following the administration of this drug, a hopeful percentage of recoveries in definitely established cases of streptococcus viridans subacute bacterial endocarditis. Paul White reported recently some encouraging results from the use of sulphapyridine and heparin.

The case which I wish to report has, I believe, the proper criteria for certain diagnosis and has now had a normal temperature for more than two years with normal laboratory findings and a gain of many pounds weight, as well as a return to normal health and activity.

A young married woman of thirty-two years, had a history of pericarditis at the age of thirteen years, at which time she was in bed for two months. She had always protected herself from unusual physical effort, although in recent years she had been more active, playing badminton and tennis. Her usual weight had been 112 to 115 pounds. It was known that she had a systolic apical murmur.

Toward the end of August, 1937, she complained

SUBACUTE BACTERIAL ENDOCARDITIS—COLVIN

of weakness and easy fatigue. In September, she was found to have low grade fever, reaching on occasion 101 degrees—with normal readings some days. Her brother, an interne in one of the local general hospitals, admitted her to this hospital September 30, 1937, for observation. She was complaining of headache and precordial pain, radiating to the left arm, of five days' duration. The only positive finding on physical examination was an apical systolic murmur. X-ray examination of the chest was normal. A urinalysis showed an occasional fine granular cast, but was otherwise negative. The hemoglobin was 75 per cent, the red blood count 4,140,000, white blood count 11,000, with 19 per cent non filamented cells. The Widal was negative, as also the test for bacillus abortus. An intradermal tuberculin test was negative. She was discharged October 2, 1937, and advised to take hematinnic plastules. By mid-October the temperature had increased, now reaching 103 degrees, the patient was weaker—practically confined to bed—and there were appearing painful, discolored, ephemeral nodules of the fingers, toes, palms, and one wrist. The nodules upon fading left pigmented areas.

November 2, 1937, I saw the patient and made a tentative diagnosis of subacute bacterial endocarditis. The patient was thin, pale and sallow. There was no clubbing. The heart was not enlarged. The rhythm was regular, the pulmonic second sound increased, and a systolic blowing murmur was heard at the apex. The spleen was not felt. There was no evidence of congestive heart failure. The lungs were clear. There were typical Osler's nodes present.

November 3 the hemoglobin was 67 per cent, the red blood count 3,310,000, and the white blood count 7,200 with 76 per cent leukocytes—10 per cent non-filamented.

A blood culture was reported in 72 hours as showing streptococcus viridans. She was asked to continue the iron therapy and to institute the use of sulphanilamide.

November 6 a devitalized tooth was extracted. The culture of the root showed staphylococcus and a few short chain streptococcus. A blood culture from another laboratory showed positive for streptococcus viridans. A vaccine was made from the dental culture. The white blood count was 23,000.

During the succeeding month the fever increased, reaching 104 degrees. There were more nodules and some definite petechiae. The patient was given a few doses of the autogenous dental culture vaccine.

December 3 the patient was admitted to the Wyandotte General Hospital, weighing 90 pounds and with a temperature of 104 degrees. The physical findings had not changed. There was still no clubbing and the spleen was not palpable. The hemoglobin was 65 per cent, the red blood count was 3,130,000, the white blood count 15,700 with 80 per cent leukocytes. The urine showed two plus albumin, but no blood. Sulphanilamide was stopped on admission.

December 5 the temperature reached only 102.5 degrees.

December 6 the temperature reached 99 degrees. She

had an indirect blood transfusion. The temperature remained normal from this date.

December 7 the hemoglobin was 70 per cent, the red blood count 4,120,000, and the white blood count 10,100.

December 14 the hemoglobin was 70 per cent, the red blood count 3,730,000, and the white blood count 9,100.

December 15 a second indirect blood transfusion was given. She was discharged December 17, 1937, and advised to take sodium cacodylate intravenously—at first every other day and later twice a week.

December 31 she was readmitted after two weeks, during which there was definite improvement, and there was a gain of seven pounds. The patient was afebrile. The hemoglobin was 75 per cent, the red blood count 3,800,000, and the white blood count 10,300. She was given an indirect blood transfusion and discharged January 1, 1938.

Following discharge from the hospital, for a month or two there was an occasional painful nodule, but, except during a short attack of erysipelas, no fever whatever. There was a continual gain in weight and strength and loss of anemia. The blood cultures have become negative. The cardiac findings have remained unchanged. The patient is now in normal health, weighs 124 pounds, and is carrying on a normal life, though with somewhat restricted activities.

Until recently it has been the general feeling that those few recoveries which have been reported were entirely spontaneous, and that no treatment was of avail. It is, however, a temptation to ascribe the recovery of my case to the use of sulphanilamide, inasmuch as the temperature became normal and remained so following its use and before any other treatment was instituted.

I should like to express my indebtedness in reporting this case to Dr. E. W. Bauer, under whose care this patient was originally, and to Dr. T. V. Wharton, who looked after her during the greater part of her illness.

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Chorionepithelioma of the Uterus

With Perforation and Intra- Abdominal Hemorrhage

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■ CHORIONEPITHELIOMA was first recognized as an entity by Sanger in 1888. Since that time many scientific papers and case reports have contributed to our knowledge of this tumor. However, chorionepithelioma of the uterus with perforation and intra-abdominal hemorrhage has been recorded in only a few instances, and it is the purpose of this paper to report a case of this type.

Case Report

The patient, a white woman aged forty, was seen as an emergency case on February 15, 1938. Several hours before admission she suddenly experienced an excruciating pain in the lower abdomen and fainted. After she regained consciousness, the abdominal pain gradually became generalized and was also referred to both shoulders.

The past history was essentially negative, except for the gynecologic history. Menstruation had always been irregular. She delivered a normal full term infant 2 years and 7 months prior to her present illness. Seven months subsequent to her delivery she failed to men-

struate at the expected time. One week later she had very profuse uterine bleeding, requiring hospitalization and 4 transfusions. At that time she was cured. Following this the menses continued to be irregular, occurring at intervals of 2-3 months. During the month prior to the present illness she had spotting



Fig. 1. On the fundal portion of the uterus there are three bluish-red nodules of tumor tissue. One of the nodules had ruptured pre-operatively, producing intra-abdominal hemorrhage.

of blood each day and recurring paroxysms of subacute pain in the lower abdomen.

When first seen the patient was well oriented and responded promptly to questions. The mucus membranes presented a fairly good color. The pulse was of good quality and the blood pressure was 112/68.

The lungs were clear to percussion and auscultation.

The abdomen was slightly rounded and moved well on deep inspiration. On palpation there was generalized abdominal tenderness, although no muscle spasm was elicited. There was definite dullness in each flank on percussion. Liver, kidneys, and spleen were not palpable.

Pelvic examination revealed normal external genitalia. The Bartholin glands were not palpable. The vaginal mucosa was normal. The cervix was in mid-position, lacerated, and firm in consistency. There was a small amount of old blood coming from the cervical canal. The uterus was in mid-position, slightly larger than normal but no definite softening was noted. Marked tenderness was elicited in palpating over the fundal portion of the uterus. The adnexæ were not palpable, and the cul-de-sac was normal.

Although there was neither lowering of blood pressure nor evidence of shock, the history and physical examination suggested the occurrence of intra-abdominal bleeding. A pre-operative diagnosis of ruptured ectopic pregnancy was made. The patient was prepared for operation.

On opening the abdomen there was free blood in the peritoneal cavity. The uterus, which was slightly enlarged and definitely softened, presented a very unusual

CHORIONEPITHELIOMA—WHITE

and interesting finding. On the anterior surface and near the left cornu there were three bluish nodules, each measuring about 1.5 cm. in diameter (Fig. 1). The peritoneum over one of these nodules had ruptured and bright red blood was coming from the point of rupture. The adnexa presented nothing remarkable except that the ovaries were smaller than normal. No recent corpus luteum was noted.

It was apparent that the diagnosis of ruptured ectopic pregnancy was incorrect. In view of the close proximity of the lesion to the left cornu, the possibility of an interstitial pregnancy was considered. Because of the extent of the lesion and the patient's age, it was decided to do a hysterectomy. The uterus together with the cervix was removed. The adnexæ, which were normal in appearance, were left *in situ*. We were not aware of the exact nature of the lesion until the uterus was opened. It was then apparent that this was an intramural chorionepithelioma.

The fundal portion of the uterus was found to be greatly distorted by a large intramural mass measuring 7 cm. in diameter, and composed of reddish-brown, soft, friable, hemorrhagic tissue. The border of the tissue was irregular but demarcated from the muscle. The mucosa, which measured 4 cm. in thickness, appeared to be free from the tumor.

The microscopic description of the tumor was as follows: "Section through many areas of the main tumor and the small nodules noted on the serosal surface shows them composed mainly of hemorrhage, fibrin, and necrotic debris. At the base of the tumor and also at the periphery of the nodules there are regular masses of epithelial cells, which are similar to the syncytial cells of the chorionic villi. There is a definite neoplastic tendency with infiltration of the adjacent musculature in all directions. The cells show extreme anaplasia and seem to be eroding into the blood vessels in some areas."

The day following operation a Friedman test was done on the urine and was reported positive. X-ray of the chest showed multiple metastatic nodules in both lungs, and the patient received deep x-ray therapy to the chest. The convalescence was satisfactory and the patient was discharged on the 18th postoperative day. Following her hospitalization she gained strength and felt quite well. Quantitative Friedman test was done one month after operation by Dr. Herbert Evans of Stanford University, who reported 45,000 mouse units of prolan per liter of urine. On April 16, two months after operation, pelvic examination revealed a nodular mass in the left side of the pelvis and along the course of the iliac vessels. She then received a course of deep x-ray therapy to the pelvis. At this time progress plates of the chest showed that the metastatic nodules in the right lung were more numerous and more advanced than they were prior to the deep x-ray therapy to the chest.

The patient was readmitted to the hospital five months after operation because of severe headaches, increasing weakness, and loss of weight. Three days later she became stuporous and developed a hemiplegia,

indicating a metastatic lesion in the brain. Her condition gradually became more critical and she expired 6 months after operation.

Autopsy showed metastatic nodules in the lungs, liver, small intestine, and brain. On microscopic examination the ovaries showed a luteal cell reaction around many of the follicles.

Discussion

Chorionepithelioma may develop after full term pregnancy, molar pregnancy, abortion, ectopic pregnancy, and may arise in a teratoma of either sex. It is well known that in normal pregnancy the cells of the chorion invade the maternal tissues but there is soon established an equilibrium between the invasive cells and the maternal organism. In the literature it is implied that the difference between a benign and a malignant invasion by the chorionic cells may be one of degree and not dependent upon any cellular change. Theoretically a number of possibilities suggest themselves. The invasive properties of the cells may be increased, the defensive mechanism of the maternal organism may be reduced, or both of these conditions may prevail. Kleine⁶ is of the opinion that there is a defective fibrinoid formation in the host. Kraus and Ishiwar⁶ have carried out serologic studies, substantiated by Graff and Frankl, which demonstrate that the maternal defense to the invasion of the chorionic cells depends upon the formation of cytolytins. Frankl⁶ has reported an absence of this immunizing protection in individuals with chorionepithelioma.

In the case which we have reported the question arises as to whether the development of the chorionepithelioma dates from what was presumably an abortion 2 years previously or whether it may have had a more recent origin. Many cases are reported with a long period of latency between the preceding pregnancy and the first manifestations of the tumor. Ladreyt and Drugman⁶ reported a patient 64 years of age, in whom the chorionepithelioma developed nineteen years after the last pregnancy. However, in the opinion of Frankl⁶ a long period of latency is questionable, when one considers how easily an abortion may be overlooked.

Diagnosis

From a review of the cases of perforating chorionepithelioma of the uterus, the usual preoperative diagnosis has been ruptured ectopic

pregnancy. The reason for this is in part explained by the fact that ruptured ectopic pregnancy is a frequent cause of sudden intra-abdominal hemorrhage in women of the reproductive age. On the contrary chorionepithelioma is a rare tumor and occurs once in 23,000 pregnancies according to Hinselman.⁶

It should be emphasized that it is the quantitative increase in the amount of gonadotropic hormone excreted in the urine which is of diagnostic importance, and that any quantitative increase must be evaluated along with the history and physical examination.

There is a great difference of opinion as to the value of the diagnostic curettage.

Treatment

In the opinion of Phaneuf¹³ the cure of chorionepithelioma depends upon an early pan-hysterectomy, the removal of adnexa, and the glandular structures, and that the operation should be preceded by radium and followed by deep x-ray therapy. Schumann and Voegelin¹⁵ believe that it is advisable to preserve the ovaries in the hope that regularly recurring cycle of oestrin and progestin formation may facilitate the regression and absorption of the aberrant fetal elements. Heuck and Hanser⁸ are of the opinion that it is not necessary to extirpate lutein cysts, while Mathieu and Palmer¹¹ state that the removal of the ovaries is not indicated if they appear normal.

In Frankl's clinic⁶ the treatment of chorionepithelioma has been operation followed by radiation therapy, and an extensive extirpation of the uterus is considered unnecessary. Hitschmann⁶ advises against operation where metastases are present. Findley⁵ favors removal of the primary growth even in the presence of metastases, since in some instances the metastatic growths have disappeared spontaneously. Hitschmann and Christofollette¹⁸ and Szathmary¹⁷ both stress the dangers of operative trauma in view of the fact that fatal non-operated cases had fewer metastases than those subjected to hysterectomy. Davis⁴ indicates that radiation should be considered in every case. Mathieu¹¹ advocates hysterectomy as soon as the diagnosis is made, in patients near the menopause or where the patient has a sufficient number of living children. In other patients he advises D and C, and re-

peated AZ tests to determine if there is living chorionic tissue present. If the AZ test is persistently positive, and if the uterus has been completely emptied and no intervening pregnancy has taken place, then a hysterectomy should be done.

Summary

1. A case of perforating chorionepithelioma with intra-abdominal hemorrhage is reported.
2. This syndrome is usually diagnosed preoperatively as ruptured ectopic pregnancy.
3. The quantitative AZ test is the most valuable single aid in the diagnosis of chorionepithelioma, and must be evaluated together with the history and physical examination.
4. The diagnostic curettage is of only limited value and negative findings prove nothing.
5. The treatment of chorionepithelioma has been operative removal of the affected organs, or radiation therapy, or a combination of these two forms of therapy.

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GOVERNMENT MEDICINE AT WORK

I visited the State of New Mexico. I went to Hot Springs. I saw a hospital that cost \$2,500,000 accommodating ninety crippled children, built out of Government money. Yet there was not a single orthopedic surgeon in the State of New Mexico to take care of those crippled children. So they import an orthopedic surgeon two mornings a week from El Paso, Texas, on a salary larger than that paid to the Governor of New Mexico in order to take care of ninety children in a hospital in a town of three or four hundred people in the State of New Mexico. That is Government medicine.—MORRIS FISHBEIN, M.D., *Illinois Medical Journal*, October, 1941.

Confusing Tuberculosis*

By Charles E. Black, M.D.
Lansing, Michigan

CHARLES E. BLACK, M.D.
M.D., University of Chicago, 1936. M.S.
in Pathology, University of Michigan, 1939.
Pathologist at St. Lawrence, Sparrow, College
Hospitals and Ingham County Tuberculosis
Sanatorium. Member, Michigan State Medical
Society.

■ OF THE INTERESTING and difficult medical and surgical cases arbitrarily selected for discussion at our Clinical Pathological Conferences, tuberculosis has been especially prominent. A correlation of the clinical pathological findings reveals that tuberculosis is still an important problem to the clinician because of its frequent occurrence and because of its ability to mask other diseases, thus making diagnosis difficult. Warthin emphasized that syphilis is the master of disguise and that if one knew all the manifestations of syphilis he knew 90% of all medicine and if he knew tuberculosis in addition, he knew 95% of it. Since syphilis in its advanced stages is now infrequently seen in general practice, tuberculosis has ascended the rank of elusive syphilis.

Interesting Autopsy Findings

The frequent finding of advanced tuberculosis at autopsy with its complex clinical manifestations is amazing. As an illustration, we found eighteen cases of advanced tuberculosis from a group of 140 autopsies, about one-third of which were baffling diagnostic problems.

One case that closely simulated a monocytic leukemia turned out to be advanced pulmonary tuberculosis. Two cases that were thought to be brain abscesses following an upper respiratory infection, were pulmonary tuberculosis with tuberculous abscesses of the brain. Another which appeared to be a rare lipid disturbance was advanced pulmonary tuberculosis with generalized miliary lesions. Tubercle bacilli were demonstrated.

It should be emphasized that tuberculosis should always be considered carefully in dif-

ferential diagnosis, especially, when the clinician is groping for a diagnosis.

A search for tuberculosis should include: a careful history and physical examination including weight, temperature, pulse rate, roentgenological examination of the chest; tuberculin skin tests; and examination of the sputum and other body discharges. In cases where tuberculosis is suspected the test should be repeated if the first examination was negative. Examination of the sputum should include a stained smear, culture, and guinea pig inoculation.

FOOTBALL INJURIES

Stringent rules of play, improved equipment and rigid systems of physical conditioning serve to safeguard today's football player against injury. These safety measures may be nullified by inadequate medical supervision during play or practice. It takes a strong-willed coach to resist sending in his injured star passer when dear Alma M. is a touchdown behind in the last two minutes, the crowd is yelling, the clock is ticking, and next year's contract depends on winning the close contest. Too often, the boy does go in, to be injured perhaps for life. It should not be left to the coach to say whether this boy plays or not. It is not fair to him or the player. Final authority as to who should or should not play at any given moment should rest with the team physician. Only he can be in position to judge the player's physical condition. Only he has the right to assume final responsibility for the physical welfare of the players.

Most organized games now have a physician in attendance. Rules of the El Paso school system forbid a scheduled game beginning until the team physician is on the field. Yet, what real good is his presence unless he has absolute veto over the desires of the coach to send into the fray players who may be injured? What may appear to be a trivial injury to an anxious, excited coach may well be a matter of serious consequence to the player and his physician. Study of the problem of football injuries had led to conclusions and findings which, applied thoroughly, have greatly lessened all manner of injuries, minor and serious, incurred on the field of practice and play. Today most injuries are known to occur on the nation's sand lots, where training and play are not medically supervised.

Few coaches would be guilty of sending an injured boy in to play. But there are persons who would do just about anything to win a game, and to hell with the consequences. For the sake of the grand old game and the boys who play it, the power of veto over such coaches' desires should rest irrevocably with the team physician.—*Southwestern Medicine*, November, 1940.

*From the department of pathology of the Edward W. Sparrow and Saint Lawrence Hospitals, and the Ingham County Sanatorium.

President's Page

Christmas and the New Year

MY Sincere Wish to all members of the Michigan State Medical Society for a

Most Happy Christmas Season!

May the New Year bring our doctors of medicine an abundance of health, vitality, and courage to perform cheerfully and well the daily tasks assigned to them.

May our profession wisely solve the grave problems—scientific, economic and sociologic—which face us as a group and as individual practitioners.

Finally, may Peace on earth be a blessing bestowed upon the world during 1941.

These are my heart-felt holiday wishes.



President, Michigan State Medical Society

★ EDITORIAL ★

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

KEEPING STEP

■ WHILE DEVELOPMENT of contacts between the profession and the layman are at all times of importance, the present situation, politically and economically, makes it most necessary that every endeavor be made to acquaint our patients and their friends with a clear understanding of the part we are to play in the sociologic and economic revolution.

Whether or not you believe the old adage that a doctor is a poor business man, you certainly must admit that the doctor is a poor propagandist. In the old days when a man, a product, or a profession was judged by intrinsic worth alone we had nothing to fear. But, in these days of high pressure press agents, some of the easily swayed people believe the tradition and ethics of the medical profession should be scrapped like last year's spring hat.

In a move to remedy this impending situation the Council offered a resolution before the House

of Delegates in September, and it was passed by the House, which provides for the establishment of a public relations activity in the executive office of the Michigan State Medical Society and for the employment of a specialist in public relations.

At the present time a search is being made for the right man but the general program is being developed without delay. If a member is called upon to discuss "socialized medicine" before a group, help will be provided in all conceivable forms. Of course, there are many other ways in which this new service will be used; such as, in press relations, contacts with groups interested in social, economic or legislative problems, and others. The physician will be on the firing line but there will be no scarcity of ammunition. This new activity will provide additional anti-aircraft batteries against the revolutionists who seek to supplant a system proved to be good with one which is hoped to be better but which we know will be worse.

"MEDICAL POLITICIAN"

■ THE reiteration of a commonly used phrase the other day occasioned the analysis of the scientific status of your officers. Perhaps you have called your councilor or other officer a "medical politician." By using this careless and oftentimes offending appellation you indicate a belief in your mind that these men are sacrificing their scientific advancement for political conquests.

There are twenty-one men in this group; one-third are certified by their specialty boards; two-thirds are members, either of the American College of Surgeons or of the American College of Physicians. They are divided about fifty-fifty between the specialists and the general practitioners. Every man is actively in the private practice of medicine. At least five of the men have published scientific articles.

If you still insist on calling these scientific gentlemen "medical politicians," remember that it is better for you to be led by "medical politicians" of your own choosing than to be governed by politicians, neither scientific nor chosen by you.



YOU AND YOUR BUSINESS



SEASON'S GREETINGS

In extending the Greetings of Christmas to every member of the Michigan State Medical Society, the officers and councilors review with gratification the accomplishments of the past year. Organized medicine in Michigan has kept pace with scientific advancement, while at the same time meeting and solving its ever-increasing social and economic problems.

Looking to the year 1941, a period of even greater service by the medical profession to the citizens of Michigan is anticipated—a service developing better health and prosperity to all, epitomized in the sincere Greeting "A Happy New Year."

RETURNS UNDER THE INTANGIBLES TAX LAW

Early in 1941 citizens of Michigan will receive forms for filing returns under the Intangibles Tax Law. Physicians are urged to refer to page 57 of the January, 1940, issue of *THE JOURNAL*, for a complete discussion on how the law affects them.

The item of greatest interest to physicians as far as this law is concerned is with regard to accounts receivable, which are included as taxable property. Of course, worthless accounts are exempt, but the State Tax Commission requires that such accounts must be charged off with no possibility of collection. Every account must be considered as all good or all bad—a portion of the account may not be charged off. It is advisable that physicians make a thorough study of all their accounts, *NOW*.

The tax also applies to bank accounts, after an initial exemption of \$3,000; certain income-producing property including bonds, notes, mortgages, etc.

Physicians are invited to write the Executive Office, 2020 Olds Tower, Lansing, Michigan, if they have specific questions relative to the Intangibles Tax Law.

REMISSION OF DUES

Following approval by the M.S.M.S. House of Delegates of The Council's recommendation,

the Executive Committee has ruled that the State Society dues for doctors of medicine, members of the Michigan State Medical Society, in active military duty away from their homes, may be remitted if recommended by the county medical society. This applies to 1941 dues.

COUNTY SECRETARIES' CONFERENCE

January 19, 1941 is the date of the annual County Secretaries' Conference. The meeting will be held in Lansing at the Olds Hotel beginning at 10:00 A.M., followed by Sunday dinner at 1:00 P.M. The afternoon session will be a joint meeting with the public health officers of the State, as in the past.

The morning session will be devoted to round-table discussions on Medical Preparedness, Michigan Medical Service, the Future in Legislation, and How to Make a County Medical Society More Influential.

Governor Murray D. VanWagoner will be speaker at the noon-day dinner.

Secretaries and executive secretaries of county medical societies are invited to attend and are urged to bring their Presidents, Presidents-elect, and other officers as well as members interested in organizational activity.

INSIST ON APPROVED PRODUCTS

Products advertised in the *M.S.M.S. JOURNAL* and displayed in the exhibits at Michigan State Medical Society conventions must in every respect conform to the requirements of the Councils and Committees of the American Medical Association.

Some firms which are detailing Michigan physicians have products which have not been presented to the A.M.A. for approval. A number of these firms have requested space in the *M.S.M.S. JOURNAL* and Exhibit, but have had to be refused.

Physicians will help their patients and their reputations if they insist on purchasing only Council-accepted products, and refer to the American Medical Association all firms which attempt to sell them unapproved equipment and supplies.

MICHIGAN MEDICAL SERVICE

THE continued successful conduct of the group medical care plan—Michigan Medical Service—sponsored by the medical profession of Michigan, indicates constant and sympathetic co-operation on the part of doctors. In addition to the establishment of a professionally controlled plan for prepayment of medical services *which will preclude government or commercial intervention in the practice of medicine*, the benefits to the doctor are prompt and equitable payments for services rendered. There is, likewise, the honor that accrues to the medical profession for its courage and farsightedness in providing a means whereby persons with limited incomes can avail themselves of necessary medical and surgical services.

Progress to Date

The acceptance of Michigan Medical Service on the part of the public is indicated by the enrollment (to October 31) of 90,396 subscribers—4,346 in the Medical Service Plan and 86,050 in the Surgical Benefit Plan. There is a steadily increasing interest in the full Medical Service Plan; in the months of September and October the number of subscribers to this more complete coverage almost tripled.

The enrollment represents the coöperation of 113 firms which were willing to assume the trouble and expense of collecting monthly subscriptions from the employees in order that the benefits of the program might be made available.

To date, 3,314 doctors of medicine are registered with Michigan Medical Service. The willingness on the part of doctors to render services for subscribers under the provisions of the medical service plan has been one of the outstanding results of Michigan Medical Service.

It is hoped that the doctors who have not yet sent in their Application for Registration will do so promptly in order that the full extent of the coöperation of the profession can be indicated to the public.

The services provided for subscribers is best shown by the \$175,000 paid for medical and surgical care received by 4,307 patients. It is definitely evident that the medical service program is making it more possible than ever before for subscribers to obtain necessary services of doctors.

One out of every six doctors in Michigan has been paid through Michigan Medical Service for services to subscribers. The full Schedule of Benefits which is equivalent to the prevailing charges now made by doctors of medicine for patients in the income group enrolled in Michigan Medical Service has been paid for all services in each month.

Frequent Questions—Answered

A review of questions most frequently asked by doctors about Michigan Medical Service may serve to clarify further the basic procedures under Michigan Medical Service which have been outlined in previous articles.

Q. *What should I tell my patients who ask how they can enroll?*

A. It is necessary for subscribers to be enrolled in groups of *not less than ten*. The inquirer should contact Michigan Medical Service so that a presentation of the plan can be arranged at his place of employment (or at the place of employment of the person's husband). If the inquirer can not be enrolled with a group of employees, it may be possible to arrange for enrollment through a common interest group such as an association or fraternal society.

Q. *Should the patient who is a subscriber to the Medical Service Plan pay the first \$5.00 charge directly to the doctor?*

A. No, the doctor will not be asked to assume this collection. The subscriber will be billed by Michigan Medical Service for the first \$5.00 of services and should make the payment directly to Michigan Medical Service. The doctor will be paid by Michigan Medical Service whether or not the amount is collected from the patient.

Q. *May the subscriber be charged in addition to the payment from Michigan Medical Service?*

(A.) No—if the subscriber's income is below the limit of \$2,000 annually for the individual or \$2,500 for the husband and wife or family and the services received are benefits in the subscriber's certificate.

(B.) Yes—if the subscriber's income is above the limits or if the subscriber receives services not provided in his certificate.

The statement sent with the check to the doctor will indicate when the subscriber falls in the latter classification. If the payment is not equivalent to the doctor's customary charge to the patient, he may bill the patient for the difference between the payment from Michigan Medical Service and his customary charge.

Q. Are persons with incomes above the specified limits enrolled as subscribers?

A. Yes. It has been necessary, in order to avoid discrimination among workers and to make it possible to encourage enrollment of employees in the lower income groups, to enroll a small percentage (approximately 5%) of the employees who earn more than the income limits. The doctor sends the Monthly Service Report to Michigan Medical Service and payment made by Michigan Medical Service is only a credit. As previously described, the doctor may charge the patient the difference between this payment and his customary charge to the patient.

It is suggested that no bill be sent to the patient until payment is received from Michigan Medical Service.

Q. What will I be paid for my services to a subscriber?

A. The amount of payment is determined by the Medical Advisory Board in accordance with the general level of benefits in the schedule of benefits which has been prepared merely as a guide for the authorization of payments.

A short listing of the benefits to indicate the general level may be obtained by any cooperating doctor, upon request.

Know Your Medical Service Program

In the near future, an additional set of material describing in full the provisions of Michigan Medical Service will be sent to all doctors of medicine in Michigan. In the meantime, any information desired may be obtained by writing to Michigan Medical Service, Washington Boulevard Building, Detroit, or by contacting the secretary of your county medical society.

**Mail your Preparedness
Questionnaire to the A.M.A.
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MICHIGAN'S DEPARTMENT OF HEALTH

HENRY A. MOYER, M.D., Commissioner, Lansing, Michigan

LOBAR PNEUMONIA DEATHS

As a result of serum and drug therapy, the median for lobar pneumonia deaths in 1939 as compared with the 1933-37 average has been moved on eight years, from age 47 to age 55. More than 350 lives were saved in 1939 by serum and drug treatment of pneumonia patients, according to an analysis of deaths by age groups made by the Division of Pneumonia.

The effectiveness of serum and drugs of the sulfonamide group has been shown repeatedly in experimental use; now for the first time it is demonstrated that their use in Michigan has been sufficiently general to affect the figures for the population as a whole.

For the five years from 1933 to 1937, the average number of lobar pneumonia deaths was 2,122. In the age groups from five to 49 where serum and drug are most effective, the reduction in deaths was 51 per cent compared with 13 per cent at the extremes of life. Had the 13 per cent reduction applied throughout all age groups, there would have been 1,844 deaths. Actually, lobar pneumonia deaths in 1939 totaled only 1,484. The saving of 360 lives not being otherwise explainable must commonly be credited to a general use of serum and drug treatment.

The old peak of lobar pneumonia deaths from age 35 to 55 disappeared in 1939. In the years from five to 45, the saving in life was 50 to 60 per cent of the five-year average. High school boys and girls no longer appear in the span of years encompassed by the middle two-thirds of lobar pneumonia deaths.

No figures are available as to the total number of patients treated with serum or drug in 1939. A new method of refinement has been developed for the serum produced in the Department of Health laboratories under a Commonwealth Fund grant. Old supplies of serum have been replaced with the new at 50 distributing centers. Serum is distributed free to physicians for types 1 and 2, 3, 5, 7 and 8.

Case reporting of lobar pneumonia is not an accurate indication of prevalence. However, both the seasons of 1938-39 and 1939-40 were light pneumonia years. For the four months since July, the 1939 and 1940 cases reported are as follows, with the 1939 figure given first: July 92, 131; August 102, 82; September 109, 99; October 147, 121. Additional cases probably will be added to the October report.

PERSONNEL CHANGES

Dr. F. J. Hill, director of the Mason-Manistee-Benzie Health Department, was to leave November 15 to become director of the bureau of preventable diseases in the North Dakota State Department of Health.

Dr. L. H. Gaston, director of the Sanilac County Health Department, left October 15 to become director of local health services in the Ohio Department of Health. A successor has not been named.

Dr. F. S. Leeder, director of the Branch County Health Department, left October 20 for five months of study and field work at the University of Toronto. In his absence, his duties will be carried on by Dr. M. R. Kinde, medical director of the Kellogg Foundation.

BLOOD TESTS OF DRAFTEES

Thirty thousand individual kits are being furnished by the Michigan Department of Health to draft board physicians for taking blood specimens of men called by

selective service for medical examination. The kits will make unnecessary the use of syringes and consequently will eliminate sterilizing of equipment while specimens are being taken.

Kahn tests on specimens from all drafted men examined will be run in the Lansing laboratories of the Department, except those for Kent county, which will be done in the Grand Rapids laboratories. To handle peak loads as men are called up, the laboratories will run two shifts a day, seven days a week if necessary.

The individual kits for taking specimens include a four-gram vial, self-sealing gum stopper with membrane top, and 21-gauge antitoxin needle. In addition, 1,000 suction tube connections are being made up for draft board physicians. These consist of a connecting needle, glass filter piece with cotton protector, 12-inch tubing and mouthpiece. In use, the sterile needle is plunged through the stopper and then with the vial as handle, the needle is inserted in the desired vein. When suction is applied to the vial, blood is drawn with ease and speed.

As fast as kits are used in taking specimens, replacements will be made from the state laboratories.

BLOOD TESTS NUMBER 67,548

Laboratory tests for syphilis in Michigan Department of Health and registered laboratories totaled 67,548 in September. Of these 19,658 were done in the four state department laboratories at Lansing, Grand Rapids, Houghton and Powers, 47,890 in registered laboratories.

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#



Woman's Auxiliary



Calhoun County

The Calhoun County Medical Auxiliary held its opening meeting October 1, 1940 at the home of Mrs. Wendell Stadel. There were thirty-five present. Mrs. Keagle reported briefly on the State Convention. The chairman of the rummage sale committee reported a profit of \$134.00. After the business session the ladies sewed for the Red Cross.

* * *

Genesee County

The regular meeting of the Woman's Auxiliary of the Genesee County Medical Society was held Wednesday, October 23, with Mrs. L. L. Willoughby, Mrs. A. W. Harper, Mrs. H. E. Randall and Mrs. C. E. Williams as hostesses for the day. The luncheon meeting was preceded by a board meeting at 11 o'clock. Mrs. W. W. Stevenson, program chairman for the day, presented Mrs. Lloyd Kirby and Mrs. C. Tyler Holmes who spoke on the four proposals to be considered in the fall elections.

* * *

Jackson County

The opening meeting of the Woman's Auxiliary of the Jackson County Medical Society met October 15, 1940 at the home of Mrs. C. D. Munro. Dinner was served to sixty-three members by Mrs. A. M. Shaeffer, chairman, and her efficient committee. The business meeting was conducted by the president, Mrs. G. R. Bullen. Mrs. M. D. Wertenberger, program chairman for the evening, introduced Dr. Wilfrid Haughey of Battle Creek, who spoke on the "Progress of Medicine."

* * *

Kalamazoo County

The first fall meeting of the Auxiliary of the Kalamazoo Academy of Medicine was held at the home of Mrs. R. J. Hubbell, October 15, 1940. The thirty-two members present enjoyed a cooperative dinner. Mrs. Leslie De Witt was in charge of the business meeting after which Mrs. R. G. Cook, past president and delegate to the State Convention, gave her report.

* * *

Kent County

The Kent County Woman's Auxiliary held a delightful luncheon meeting at the Women's City Club, October 9. Mrs. Guy DeBoer, the new president, presided. Mrs. John Rigterink gave a talk on her hobby "Button-Lore," which was most entertaining and instructive. Her collection is a splendid one and won first prize at the 1939 National Button Show. Mrs. William Butler, president-elect of the State Auxiliary, gave an interesting report on the State Convention.

* * *

Lapeer County

At the Woman's Auxiliary meeting held October 25 at the home of Mrs. H. B. Zemmer, dinner was served to eighteen members. The new officers are: President, Mrs. David Burley, Almont; Vice President, Mrs. F. R. Hanna, Lapeer; Secretary-Treasurer, Mrs. D. J. O'Brien, Lapeer.

* * *

Monroe County

The Auxiliary of the Monroe County Medical Society met at the home of Mrs. Robert Williams in October. Plans were made to begin a sewing project for the Red Cross. After the business meeting refreshments were served.

* * *

Saginaw County

Mrs. Dale E. Thomas of Saginaw was hostess to the Saginaw County Medical Auxiliary Tuesday evening,

October 15, 1940. The group decided to place *Hygieia* in rural schools throughout the county and made plans to assist with Red Cross work. Mrs. George W. Francis reviewed the book "The Amazing Madam Jumel." Refreshments were served with Mrs. Robert Jaenichen and Mrs. Lloyd C. Harvie assisting at the tea table.

* * *

St. Clair County

Twenty-one members and guests of the Woman's Auxiliary of the St. Clair County Medical Society attended a dinner meeting in St. Clair Inn, November 5. After dinner the members were guests of Mrs. Harry C. Wass in her new home.

* * *

Van Buren County

The October meeting was held on the eighth at the home of Mrs. Edward Hall, following a joint dinner meeting with the husbands at the Methodist Church in Hartford. Regular reports were given and a member from each town reported on the progress of the project of placing copies of *Hygieia* in the local school and public library. Plans were made for a "health essay" contest to be sponsored by the Auxiliary and to be offered in the spring in the public schools. Reports of the state meeting were given by Mrs. Edwin Terwilliger and Mrs. W. R. Young, delegates, and by Mrs. Charles Ten Houten who attended some of the sessions.

* * *

Wayne County

The first meeting of the 1940-1941 season was held Friday, October 18, 1940, at Botsford Tavern. Luncheon was served at one o'clock, after which the guest of honor, Dr. Allan McDonald, president of the Wayne County Medical Society, gave a short address. Dr. MacDonald urged each member to encourage "her doctor" to attend the meetings of the Medical Society during the year. He stressed the importance of a united membership during these times of uncertainty and difficulty. At the regular business session following the luncheon, plans for the coming year were discussed. Report of the organization of a Red Cross unit at the Society's headquarters was received with interest, and members pledged their support to this new project. At the conclusion of the business session, the Program Chairman, Mrs. A. Duane Beam, presented Mrs. Ann Little Brandes, who gave an address on "The Domestic Help Problem." Mrs. Brandes, who is a field worker for the Michigan State Employment Service and has had wide experience in this field, gave an interesting and instructive talk.

* * *

WOMAN'S AUXILIARY BULLETIN

The Woman's Auxiliary of the American Medical Association is making a special effort at this time to awaken wide-spread interest in its activities, by increasing the number of readers of the *Bulletin*, successor to the News Letter which for many years has kept the officers and board members acquainted with the progress of the Auxiliaries of all the States. It is published quarterly and contains reports of conventions, places of work, inspirational messages from leaders, and news of the hour in the medical world.

The Fall issue contains the inaugural address of Mrs. V. E. Holcombe, the National Auxiliary president; also a message to women from Dr. Van Etten, president of the American Medical Association. Many other interesting items are to be found within its forty pages.

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★ COUNTY AND PERSONAL ACTIVITIES ★

Oliver B. McGillicuddy, M.D., Lansing, addressed the Livingston County Medical Society on Friday, November 1 on "Sinusitis" illustrated with lantern slides.

Secretary L. Fernald Foster, M.D., Bay City, addressed the Lapeer County Medical Society and its Woman's Auxiliary on the subject of "Michigan Medical Service" at Lapeer on November 8.

Jerome W. Conn, M.D., Ann Arbor, is the author of the article "The Spontaneous Hypoglycemias" which appeared in the November 16, 1940, issue of *The Journal of The American Medical Association*.

The Reader's Digest is now published in the Spanish language, for distribution throughout Latin America. Thus, our neighbors "south of the border" are being given a further opportunity to learn more of the United States and its people.

Doctor, remember your particular friends, the exhibitors, at your annual convention, when you have need of equipment, appliances, medical supplies, and service. Here are ten of the firms which helped make the 1940 Convention such a success:

Zimmer Manufacturing Company, Warsaw, Indiana
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Frederick Stearns & Company, Detroit
E. R. Squibb & Sons, New York
Smith, Kline & French Laboratories, Philadelphia

Walter M. Bartlett, M.D., Benton Harbor, recently presented a paper before the Aero Medical Association on its 12th Annual Meeting in Memphis, Tennessee, on the subject "Combined Electrocardiography, Stethography and Cardioscopy in the Selection of Pilots."

Frederick B. Miner, M.D., Flint, has been appointed Chairman of the Goiter Prevention Committee of the American Public Health Association. Doctor Miner is Chairman of the Iodized Salt Committee of the Michigan State Medical Society.

Henry E. Perry, M.D., Newberry, Past-President of the Michigan State Medical Society, attended the meeting of the Executive Committee of The Council of the MSMS on November 10, in Lansing. Doctor Perry was on his way to Lakeland, Florida, where he spends the winters.

The members of the Michigan State Medical Society extend to Wilfrid Haughey, M.D., Battle Creek, Councilor of the 3rd District and Secretary of the Calhoun County Medical Society, their deepest sympathy in the loss of his mother who passed away on October 26, 1940.

Shiawassee County on January 1, 1941, will become the sixty-third county in Michigan to have full-time public health service. The Board of Supervisors approved plans for a county unit last summer, and arrangements have been made and money appropriated to start the Shiawassee County Health Department the first of the year.

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COUNTY AND PERSONAL ACTIVITIES

The October, 1940, issue of the Muskegon County Medical Society Bulletin was dedicated to George L. LeFevre, M.D., Muskegon, Past-President of the Michigan State Medical Society.

* * *

The Michigan Society of Obstetricians and Gynecologists held its regular meeting on November 5, 1940, at the Pantlind Hotel in Grand Rapids. Among the speakers on the program were Paul Willits, M.D., Leon Bosch, M.D., Henry Clapp, M.D., Harrison S. Collisi, M.D., and J. Duane Miller, M.D., all of Grand Rapids. Russell W. Alles, M.D., and Harold C. Mack, M.D., both of Detroit, are President and Secretary respectively of the Society.

* * *

The Radio Committee of the Washtenaw County Medical Society (Hugh M. Beebe, M.D., Chairman, S. W. Donaldson, M.D. and Lester J. Johnson, M.D.) is coöperating with Professor Abbott of the University of Michigan whereby students at the University develop and present the programs under the direction and auspices of the County Medical Society. The programs cover a 15 minute period every Saturday, 5:30 P.M. over Station WJR.

* * *

The State Board of Registration in Medicine states that at the meeting of the Board held October 8, 1940, the medical license of Eugene Williams, M.D., formerly of Hartford, Michigan, was suspended until the June, 1941, meeting of the Board.

At the same meeting, the Board discontinued the suspension of the license of Franklin T. Bower, M.D., formerly of Detroit, and placed Doctor Bower on probation for six months stipulating that he must report monthly by letter to the Secretary of the Board.

* * *

Irvin Abell, M.D., of Louisville, Kentucky, former president of the American Medical Association, was appointed on September 19 by President Roosevelt to head the Health and Medical Committee of the Council on National Defense, to survey and coördinate the medical resources of the country in the interests of national defense. Clarence D. Selby, M.D., Detroit, member of the M.S.M.S. Industrial Health Committee, has been appointed chairman of the subcommittee on Industrial Medicine.

* * *

The Toledo Academy of Medicine announces its 16th Annual Postgraduate Course which will be held December 11, 12, and 13 in the Academy Building, 15th at Monroe, Toledo, Ohio. The guest lecturer will be A. C. Ivy, M.D., Chicago, who will discuss the following important subjects: Physiological Changes in Pregnancy; Physiology of Labor, Onset and Mechanism; The Liver and Biliary Tract; Water Balance in Health and Disease, Acidosis and Alkalosis; Advance of Diagnosis and Therapeutic Interest Regarding the Alimentary Tract; Hypertension; Respiration and Pathological Conditions; Vitamins in Diagnosis and Treatment and "Interpretation of Some of the Patient's Symptoms."

For full details, write The Toledo Academy of Medicine, Monroe at 15th, Todelo, Ohio.

* * *

CORRECTION

In "Impediment to Circulation" by Charles C. Macklin, M.D., in the October issue of THE JOURNAL the sentence beginning in the eighth line under the heading "Clinical Importance" on page 757 should have read: Here the same two adverse conditions (1) straining and weakening of the extended alveolar bases, and (2) the creation of a positive pressure gradient from alveolus to vascular sheath, would seem to be operative.

DECEMBER, 1940

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MICHIGAN PATHOLOGICAL SOCIETY

The fall meeting of the Michigan Pathological Society was held at Harper Hospital, Detroit, on October 12. Cases were demonstrated on "Pathology of the Hematopoietic System," by Drs. S. E. Gould, C. H. Binford, F. W. Hartman, Lester Hoyt, Dorothy Sundberg, D. H. Kaump, G. Steiner, A. S. Giordano and D. G. Christopoulos. An address by Dr. Russell Haden, of Cleveland, on the subject "Pathologic Hemorrhage," constituted the principal part of the program. Forty-one were in attendance. The meeting was presided over by Dr. W. L. Brosius, President.

The next meeting will be the annual meeting and will be held on December 14, at the University Hospital, Ann Arbor, where the Society will be guests of Dr. C. V. Weller and his associates in the Department of Pathology. The subject of the Scientific Program for the annual meeting is "Syphilis in General."

* * *

ADVANCED COURSE IN SURGICAL ANATOMY

An advanced course in Surgical Anatomy will be given at the University of Michigan Medical School during the second semester—February 12 to May 28, 1941. The classes will meet Wednesdays 1:00-10:00 p.m. each week, under the instruction of Professor Rollo E. McCotter. (In 1942, the course will be given on Thursdays).

Dissection of specific regions of the body as preparation for surgical specialties or investigative work will comprise the course. If time permits and suitable material is available the study may be extended to the microscopic and developmental anatomy of the region. An informal lecture the first part of the afternoon will be followed by dissection of the part under consideration. Graduate or postgraduate credit can be arranged. Fee \$25.

For further information, address: Department of Postgraduate Medicine, University of Michigan, Ann Arbor, Michigan.

* * *

COUNCIL AND COMMITTEE MEETINGS

1. **Sunday, November 3, 1940—2:00 p.m.**—Syphilis Control Committee, Lansing
2. **Sunday, November 3, 1940—12:00 noon**—Tuberculosis Control Committee, Battle Creek
3. **Wednesday, November 6, 1940—2:00 p.m.**—Child Welfare Committee, Detroit
4. **Sunday, November 10, 1940—2:00 p.m.**—Executive Committee of The Council, Lansing
5. **Sunday, November 10, 1940—2:00 p.m.**—Heart & Degenerative Diseases Committee—Lansing
6. **Wednesday, November 13, 1940—12:00 noon**—Iodized Salt Committee, Detroit
7. **Wednesday, November 13, 1940—5:00 p.m.**—Legislative Committee, Lansing
8. **Thursday, November 14, 1940—5:30 p.m.**—Mental Hygiene Committee, Detroit
9. **Friday, November 15, 1940—11:30 a. m.**—Maternal Health Committee, Detroit
10. **Saturday and Sunday, January 11 and 12, 1941**—Midwinter Meeting of The Council, Detroit.

* * *

COUNTY SOCIETY MEETINGS

Bay—Wednesday, November 13—Wenonah Hotel, Bay City.

Berrien—Thursday, November 7—Hotel Vincent, Benton Harbor—Speaker: M. Herbert Barker, M.D., Chicago on "Cyanates in the Treatment of Hypertension."

Calhoun—Tuesday, November 12—Hart Hotel, Battle Creek—Speaker: R. B. Malcolm, M.D., Illinois Research Hospital on "Surgical-Pathological Conditions of the Neck." Monday, November 18—Hart Hotel, Battle Creek—Speaker: Winthrop Morgan Phelps, M.D., Baltimore.

COUNTY AND PERSONAL ACTIVITIES

Dickinson-Iron—Thursday, October 3—Program: Discussion of scientific papers presented at State Meeting, Detroit, plus two-reel movie on post encephalitic Parkinsonism and the Therapeutic Effects of the new drug "Bellabugara." Thursday, November 7—Crystal Falls Inn, Crystal Falls—Program arranged by Harry Haight, M.D. of Crystal Falls.

Ionia-Montcalm—Tuesday, November 12—Belding—Speaker: A. M. Hill, M.D., Grand Rapids on "The Care of the Premature Infant." V. L. VanDuzen, M.D. of Belding demonstrated his new incubator.

Kalamazoo—Tuesday, November 19—Kalamazoo—Speaker: Cameron Haight, M.D., Ann Arbor on "Recent Developments in Thoracic Surgery."

Kent—Tuesday, November 12—Pantlind Hotel, Grand Rapids—Speaker: George H. Belote, M.D., Ann Arbor on "Recent Developments in Treatment of Some of the Common Dermatoses."

Lapeer—Friday, October 18—Lapeer—Speaker: Wm. J. Cassidy, M.D. of Detroit on "Surgical Procedures."

Muskegon—Friday, October 25—Occidental Hotel, Muskegon—Speakers: Robert J. Douglas, M.D., and James L. Gillard, M.D., of Muskegon on "The Male Climacteric" and "The Female Climacteric" respectively. Friday, November 15—Occidental Hotel, Muskegon—Speaker: Robert E. Lee, M.D., Chicago on "Ambulatory Treatment of Varicosities and Associated Pathology."

St. Clair—Tuesday, November 12—Harrington Hotel, Port Huron—Speaker: Wm. J. Cassidy, M.D., Detroit on "Surgery."

St. Joseph—Thursday, November 14—Constantine Hotel, Constantine—Speaker: Martin Botts, M.D., on "Congenital Anomalies" illustrated.

Shiawassee—Thursday, November 14—Memorial Hospital, Owosso—Business meeting.

Washtenaw—Tuesday, November 12—Michigan Union, Ann Arbor—Speaker: Richard H. Freyberg, M.D., Ann Arbor on "Treatment of Chronic Arthritis."

NEW COUNTY MEDICAL SOCIETY OFFICERS

Berrien County—

President—A. F. Bliesmer, M.D., St. Joseph
Vice President—Fred Henderson, M.D., Niles
Secretary—Richard Crowell, M.D., St. Joseph
Delegate—Don W. Thorup, M.D., Benton Harbor
Alternate Delegate—Noel J. Hershey, M.D., Niles.

Monroe County—

President—Vincent L. Barker, M.D., Monroe
Vice President—W. A. Smith, M.D., Petersburg
Secretary-Treasurer—Florence Ames, M.D., Monroe
Directors—J. J. Siffer, M.D., and L. C. Blakey, M.D., Monroe
Censor—C. J. Golinvaux, M.D., Monroe
Delegate—D. C. Denman, M.D., Monroe
Alternate Delegate—J. H. McMillin, M.D., Monroe.

Shiawassee County—

President—Walter S. Shepherd, M.D., Owosso
Vice President—E. R. McKnight, M.D., Owosso
Secretary-Treasurer—Richard J. Brown, M.D., Owosso
Delegate—I. W. Greene, M.D., Owosso
Alternate Delegate—L. F. Bates, M.D., Durand.

DISTRICT MEETINGS

The Seventh District Meeting was held in Marlette on Thursday, November 7, with Councilor T. E. DeGurse, M.D. presiding. Roy C. Perkins, M.D. of Bay City, Councilor of the Tenth District, spoke on "Organizational Activities of the State Society." Executive Secretary Burns spoke on "Medical Welfare" and on "Michigan Medical Service;" Secretary L. Fernald Foster, M.D. presented "Necessary Amendments to the Afflicted Child Act;" and President P. R. Urmston, M.D. spoke on "Military Preparedness." Guests of honor were Councilors Ray S. Morrish, M.D. of Flint; O. O. Beck, M.D. of Birmingham and W. E. Barstow, M.D. of St. Louis.

The Ninth District Meeting was held at the Park Place Hotel, Traverse City, Friday, November 15, with Councilor E. F. Sladek, M.D., presiding. Secretary L. Fernald Foster, M.D. presented "Organizational Activi-

DECEMBER, 1940



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COUNTY AND PERSONAL ACTIVITIES

ties" and "Medical Preparedness;" Editor Roy Herbert Holmes, M.D. Muskegon spoke on the "Afflicted Child Program," and Executive Secretary Wm. J. Burns spoke on "Medical Welfare" and "Michigan Medical Service."

The Tenth District Meeting was held at Grayling on Thursday, November 28, with Councilor Roy C. Perkins, M.D. presiding. Secretary L. Fernald Foster, M.D. spoke on "Medical Legislation and Other Activities of the State Society;" E. F. Sladek, M.D., Traverse City presented "Problems with the Afflicted Child Law;" Executive Secretary Burns spoke on "Medical Welfare;" and President P. R. Urmston, M.D. outlined "Medical Preparedness."

The Eleventh District Meeting was held at the Century Club, Muskegon, Friday, November 29, with Councilor Roy Herbert Holmes, M.D. presiding. A. S. Brunk, M.D., Detroit, gave a progress report on "Michigan Medical Service;" Wilfrid Haughey, M.D. of Battle Creek spoke on the "Afflicted Child;" and Secretary L. Fernald Foster, M.D. outlined "Organizational Activities of the State Society."

* * *

Case Postponed Indefinitely—According to an announcement issued in Washington on October 17 by United States Attorney Edward M. Curran, Justice James W. Morris, who is presiding in Criminal Court No. 2 of the District Court, disqualified himself from sitting on the case because of his former connection with the Justice Department as assistant attorney general. Justice F. Dickinson Letts, now presiding in Court No. 1, is in the middle of a first degree murder case and has a heavy assignment for the next few weeks. "Since no third criminal court is available at the present time," said United States Attorney Edward M. Curran, "I have taken the case off the assignment and it will be set down for trial in the future on a date agreeable to both the government and the defense."

This postponement will release the officials of the Association, therefore, to a continuation of their work in the headquarters office and in other capacities so essential at the present time.—J.A.M.A., Oct. 26, 1940.

* * *

Secretaries from thirty-one of the fifty-five county medical societies of Michigan attended the Secretaries' Conference in Detroit on September 25 to hear Dwight Anderson, LL.B., Director of the Public Relations Bureau of the Medical Society of the State of New York. Mr. Anderson's subject was "The War of Ideas."

Among the secretaries present were. A. B. Gwinn, M.D., Hastings; L. Fernald Foster, M.D., Bay City; Wilfrid Haughey, M.D., Battle Creek; T. Y. Ho, M.D., St. Johns; E. B. Andersen, M.D., Iron Mountain; John S. Wyman, M.D., and Sara Burgess of Flint; E. S. Oldham, M.D., Breckenridge; A. W. Strom, M.D., Hillsdale; R. J. Himmelberger, M.D., Lansing; J. J. McCann, M.D., Ionia; Horace W. Porter, M.D., Jackson; Hazel R. Prentice, M.D., Kalamazoo; Frank L. Doran, M.D., Grand Rapids; H. M. Best, M.D., Lapeer; H. C. Hill, M.D., Howell; D. Bruce Wiley, M.D., Utica; Wm. S. Jones, M.D., Menominee; Harold H. Gay, M.D., Midland; Florence Ames, M.D., Monroe; W. H. Barnum, M.D., Fremont; A. F. Litzenburger, M.D., Boyne City; John S. Lambie, Birmingham; C. G. Clippert, M.D., Grayling; D. C. Bloemendaal, M.D., Zeeland; J. H. Burley, M.D., Port Huron; E. W. Blanchard, M.D., Deckerville; E. C. Swanson, M.D., Vassar; Charles Ten Houten, M.D., Paw Paw; R. K. Ratliff, M.D., Ann Arbor; and Gaylord S. Bates, M.D., Detroit.

The following county presidents were also present: C. A. E. Lund, M.D., Middleville; George R. Goering, M.D., Flint; D. J. O'Brien, M.D., Lapeer; Robert Ballmer, Midland; and C. W. Colwell, M.D., Flint, president-elect, Genesee County.

Approximately forty guests from all parts of Michigan also were present.

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IN MEMORIAM

IN MEMORIAM

Jacob Meyer Berris, of Detroit, Michigan, was born June 18, 1896, in Toronto, Canada, and was graduated from the Detroit College of Medicine and Surgery in 1917. Following graduation he did post-graduate work in the East and then established himself in practice in Detroit. During the influenza epidemic of 1919-20, he was called to Boston by the Public Health Service to help establish emergency hospitals. While in the East, he became interested in physiotherapy as applied to disease. On his return to Detroit, he investigated the value of fever therapy in medical treatment. He was one of the first men in Michigan to adopt artificial fever therapy and was instrumental in the establishment of the fever therapy department in Grace Hospital. With his characteristic energy and imagination, a number of his later years were spent in the investigation of the value of refrigeration therapy for cancer and other diseases. He contributed numerous monographs to the literature on both therapeutic approaches. Doctor Berris died August 8, 1940.

L. Irving Condit, of Detroit, Michigan, was born June 20, 1885, in Minneapolis, Minn., and was graduated from Marquette University Medical School in 1912. He served as an interne at the Northern Pacific Hospital at Missoula, Montana and practiced for one year in Wilber, Washington. Dr. Condit came to Detroit in 1915. His hospital affiliations were in the department of surgery of Receiving, St. Mary's and Harper. During the World War he was

commissioned as a Lieutenant and assigned to the training camp at Fort Benjamin Harrison. Subsequently he went to France with the 86th Division. In 1919 he was honorably discharged from the Medical Corps, as a Captain. Dr. Condit's interest was largely in traumatic surgery. He died September 24, 1940.

Thomas W. Ferguson, of Detroit, Michigan, was born in 1876 at Smith Falls, Ontario and was graduated from Trinity College, Toronto, Ontario, Canada in 1901. Dr. Ferguson came to Detroit in 1906 and entered private practice. He died September 24, 1940 after a long illness.

Douglas L. Gordon, of Detroit, Michigan, was born January 10, 1876 in Alymer, Quebec, was graduated from the Michigan College of Medicine in 1900 and thereafter attended the New York Post-graduate School. He passed the examination for the Department of Charities and was House Officer at Blackwell Island and the Alms House Hospital. After this service he trained at the Mothers' and Babes' Hospital and finally at the Lying-in Hospital. In 1902 he returned to Detroit and entered private practice, in which he continued until his death. Doctor Gordon died August 28, 1940.

Spencer D. Guy, of Lansing, Michigan, born November 19, 1892 in Benton Harbor, Michigan, was graduated from Rush Medical School in 1917, and interned at St. Joseph's Hospital, Chicago. He served as first lieutenant in the United States Army Medical Corps at Camp Jackson, S. C., during the World War. Dr. Guy began practice in Coloma, Michigan and came to Lansing, Michigan in 1928, where he practiced until the time of his death, October 26, 1940.



Attending Staff

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B. A. Watson, M.D.
S. E. Barnhart, M.D.
W. V. VanderVoort, M.D.
M. J. Gilfillan, M.D.
W. H. Riley, M.D.
J. W. Hubby, M.D.
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Jacob Levitt, of Detroit, Michigan, was born July 14, 1897 in Kovno, Lithuania and was graduated from the Detroit College of Medicine in 1921. He served his internship at the Passavant Hospital in Pittsburgh, Pa. In addition to his general professional duties, he was physician for the Chadsey High School and the Boys' Club of Detroit. He died on October 4, 1940.

Charles D. Pullen, of Mt. Pleasant, Michigan, was born on August 20, 1864 in Allegan, Michigan and was graduated from the University of Michigan Medical School in 1892. He located in Mt. Pleasant where he built up a large medical practice. He availed himself of every postgraduate opportunity, taking courses in New Orleans, Chicago and New York City. In addition to his general professional duties, he was medical attendant at the Indian school in Mt. Pleasant for ten years and served for five years as secretary of the United States pension examining board. He also served on the Mt. Pleasant Board of Education for ten years, and during the World War was an army captain. In 1935 he was elected to the State Legislature. He died August 27, 1940.

THE DOCTOR'S LIBRARY

Acknowledgement of all books received will be made in this column and this will be deemed by us as a full compensation of those sending them. A selection will be made for review, as expedient.

OFFICE UROLOGY with a section on Cystoscopy. By P. S. Pelouze, M.D., Assistant Professor of Urology, University of Pennsylvania; Consulting Urologist, Delaware County Hospital; Special Consultant to United States Public Health Service; Member of Board of Directors, American Social Hygiene Association and American Neisserian Medical Society. With 443 illustrations, 19 of them in color. Philadelphia and London: W. B. Saunders Company, 1940. Price: \$10.00.

This is the type of book which should put many dollars into the general practitioner's pocket as well as aid him a great deal in caring for his patient with a urological condition. The volume is very complete and simply written and every procedure is described in the utmost detail. This book is the nearest thing to a correspondence course in office urology that could be imagined. The illustrations are well chosen and the diagrams distinct and clear and instructive. It is an easy book to recommend to any practicing physician.

MANAGEMENT OF THE CARDIAC PATIENT. By William G. Leaman, Jr., M.D., F.A.C.P., Assistant Professor of Medicine in Charge of the Department of Cardiology, Woman's Medical College of Pennsylvania, Philadelphia. Cardiologist, Woman's College, Memorial, Northeastern Hospitals and Philadelphia Hospital for Contagious Diseases. Consulting Cardiologist, St. Luke's and Children's Hospital, Philadelphia. Assistant Visiting Physician, Philadelphia General Hospital. Chairman, Committee on Diseases of the Heart and Circulation, Philadelphia County Medical Association; Fellow, College of Physicians of Philadelphia. 225 original illustrations two of which are in color. Philadelphia, London, Montreal: J. B. Lippincott Company. Price: \$6.50.

This very well written book covers, in sufficient detail, the management of the cardiac patient. The subject is taken up under such heads as "Functional Heart Disease," "Rheumatic Heart Disease" (which is an especially well written chapter), "Cardiac Arrhythmias," etc. It is well illustrated and should be helpful to any physician.

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THE 1940 YEARBOOK OF RADIOLOGY. Edited by Charles A. Waters, M.D., Associate in Roentgenology, Johns Hopkins University; Assistant Visiting Roentgenologist, Johns Hopkins Hospital. Associate Editor, Whitmer B. Firor, M.D., Assistant in Roentgenology, Johns Hopkins University; Assistant in Roentgenology, Johns Hopkins Hospital. Therapeutics Edited by Ira I. Kaplan, B.Sc., M.D., Director, Radiation Therapy Department, Bellevue Hospital, New York City; Associate Radiologist, Lenox Hill Hospital, New York City; Clinical Professor of Surgery, New York University Medical College. Chicago: The Year Book Publishers, Inc., 1940. Price: \$5.00.

The authors have thoroughly reviewed the literature and selected the most interesting and practical cases which are thoroughly discussed and adequately illustrated. The therapy section summarizes the advancement made in this country since the foreign literature is very meagre. The editorial comments by the authors are especially interesting.

METHODS FOR DIAGNOSTIC BACTERIOLOGY. A Complete Guide for the Isolation and Identification of Pathogenic Bacteria for Medical Bacteriology Laboratories. By Isabelle G. Schaub, A.B., Assistant in Bacteriology, Department of Pathology and Bacteriology, The Johns Hopkins University School of Medicine and M. Kathleen Foley, A.B., Bacteriologist in Charge of the Diagnostic Bacteriological Laboratory of the Medical Clinic, The Johns Hopkins Hospital, Baltimore. St. Louis: The C. V. Mosby Company, 1940. Price: \$3.00.

This book is based on the material used for training interns, medical students and student technicians in diagnostic bacteriology at Johns Hopkins. The material is all practical and of definite value to anyone interested in the technic of bacteriological investigation in the laboratory.

SYNOPSIS OF MATERIA MEDICA, TOXICOLOGY, AND PHARMACOLOGY for Students and Practitioners of Medicine. By Forrest Ramon Davison, B.A., M.Sc., Ph.D., M.B., Assistant Professor of Pharmacology in the School of Medicine, University of Arkansas, Little Rock. With 45 illustrations, including 4 in color. St. Louis: The C. V. Mosby Company, 1940. Price: \$5.00.

A condensation of almost all practical use and abuse of drugs. It is splendidly outlined and arranged for easy location of information. A decidedly useful book for the general practitioner.

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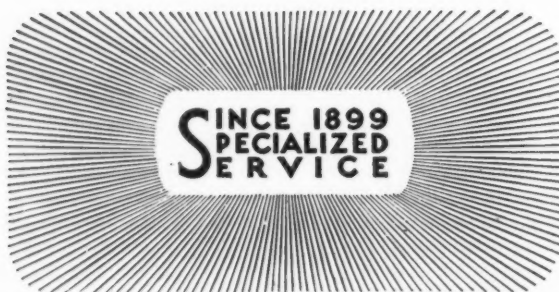
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CLINICAL UROLOGY. By Oswald Swinney Lowsley, A.B., M.D., F.A.C.S., Director of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital and Thomas Joseph Kirwin, M.A., M.S., M.D., F.A.C.S., Attending Surgeon of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital. Drawings by William P. Didusch. Two volumes. Baltimore: The Williams & Wilkins Company, 1940. Price: \$10.00.

This two-volume textbook is primarily intended for medical students and general practitioners and is most complete and yet is simply written. Beginning with history taking and physical examinations it covers the entire field of urology from a clinical standpoint. It is profusely illustrated making it almost an atlas. Operative procedures are exceptionally well described and pictorially demonstrated.

BACILLARY AND RICKETTSIAL INFECTIONS. Acute and Chronic. A textbook. Black Death to White Plague. By William H. Holmes, M.D., Professor of Medicine, Northwestern University Medical School; Chairman, Department of Medicine, Passavant Memorial Hospital, Chicago. New York: The Macmillan Company, 1940. Price: \$6.00.

The author has adapted his lectures to his students so as to provide not only the factual data regarding diseases which come in this classification but also to provide the proper background for the understanding of the present day knowledge and problems yet to be faced. In order to fully cover these conditions he has sacrificed illustrations and used an unattractive size of type. The use of many subtitles aids considerably in overcoming this physical disadvantage. The presentation of material is more engaging than the usual fiction story. Under each heading the development of the subject vividly portrays the accumulation of the present day knowledge. For absorbing scientific reading this book is enthusiastically recommended.

CONGENITAL SYPHILIS. By Charles C. Dennie, B.S., M.D., Professor of Dermatology, University of Kansas Medical School, Kansas City, Kansas; Chief of the Department of Dermatology and Syphilology of Bell Memorial Hospital, Kansas City, Kansas; General Hospital and Children's Mercy Hospital, Kansas City, Missouri; Visiting Dermatologist to Research Hospital and St. Luke's Hospital, Kansas City, Missouri and Sidney F. Pakula, B.S., M.D., Visiting Pediatrician to Children's Mercy Hospital, Kansas City General Hospital, Alfred Benjamin Clinic and Menorah Hospital, Kansas City, Missouri. Illustrated with 133 engravings. Philadelphia: Lea and Febiger, 1940. Price: \$8.00.

At first thought this would be considered a highly specialized monograph but because of the unlimited clinical manifestations of this disease it is a general practitioner's book. The descriptions, both verbal and illustrative are splendidly executed and the management of these patients is dealt with most practically. It is highly recommended as a reference book.

DOCTOR COLWELL'S 1941 DAILY LOG. Champaign: Colwell Publishing Company, 1940. Price: \$6.00.

For the doctor who wants a one-volume financial record this daily log is very simple to use and yet inclusive enough to furnish, at any time, complete financial data of one's practice. There is space allotted for almost every need of the general practitioner. The publishers claim a renewal rate of 90 to 95 per cent from year to year and renewals of this type of book should be its greatest recommendation.

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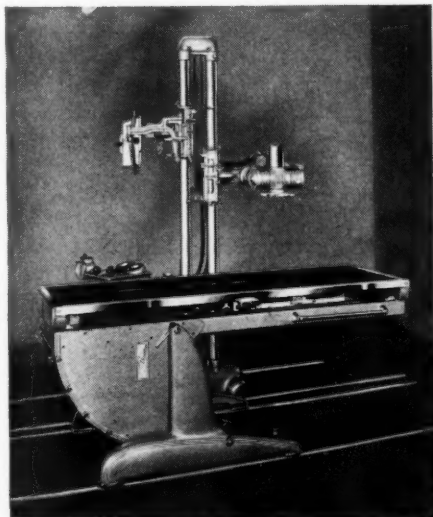
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The Nebraska State Medical Journal (March, 1940) carries an article, a paper read by R. L. Schaefer, M.D., and D. K. Kitchen, M.D., of Detroit, Michigan, on the use of "Anterior Pituitary-like Sex Hormone Therapy." After describing twenty-five cases, mostly of adiposogenital pituitarism exhibiting various effects of this lack of hormone secretion, they emphasize the paramount importance of early diagnosis and therapy.

"Theoretically one might conclude that to allow a continued lapse of time without therapy to patients who are obviously gonadally immature does nothing more than to continue to deprive that individual of a maturing factor that was perhaps very inadequate in utero or in the earlier years of life.

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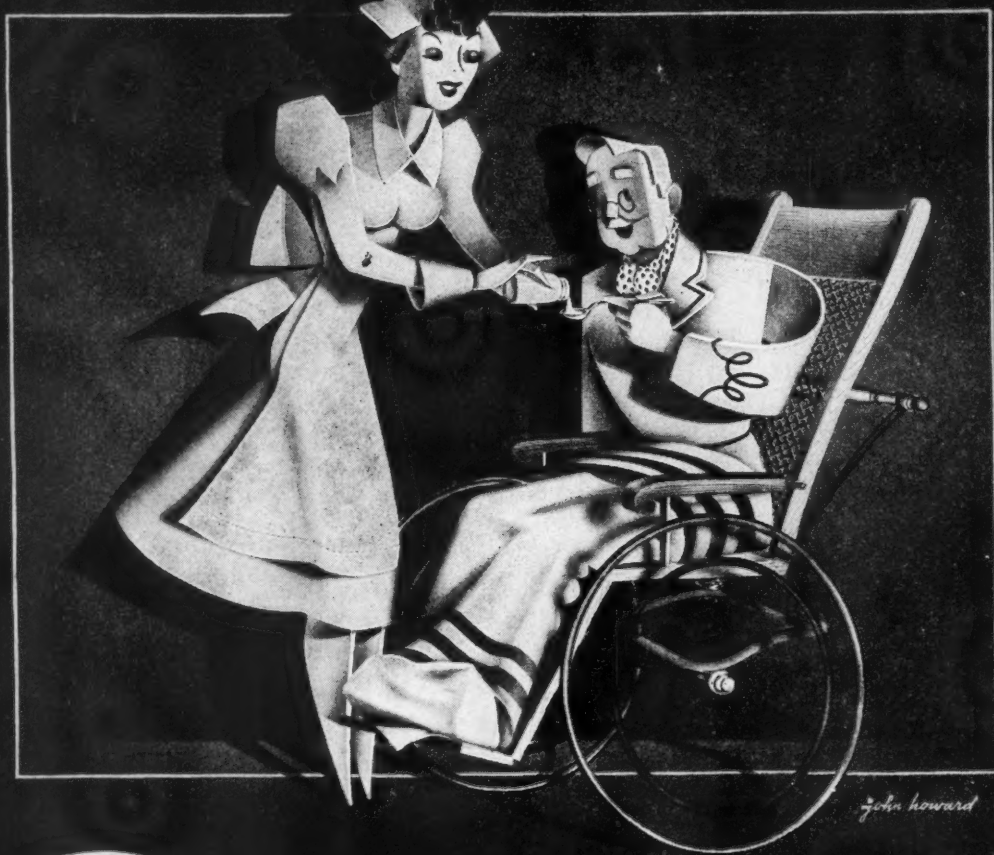
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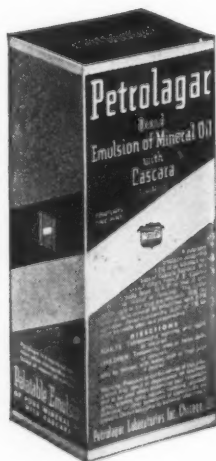
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